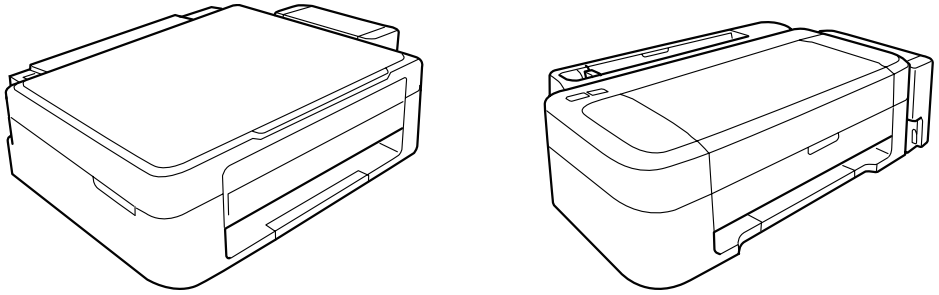
SERVICE MANUAL



Color Inkjet Printer

L365/L366, L360/L362/L363
L310/L312/L313,L220/L222, L130/L132

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Printer CS Quality Assurance Department

Safety Precautions

All safety procedures described here shall be strictly adhered to by all parties servicing and maintaining this product.

DANGER

Strictly observe the following cautions. Failure to comply could result in serious bodily injury or loss of life.

1. Always disconnect the product from the power source and peripheral devices when servicing the product or performing maintenance.
2. When performing works described in this manual, do not connect to a power source until instructed to do so. Connecting to a power source causes high voltage in the power supply unit and some electronic components even if the product power switch is off. If you need to perform the work with the power cable connected to a power source, use extreme caution to avoid electrical shock.

WARNING

Strictly observe the following cautions. Failure to comply may lead to personal injury or loss of life.

1. Always wear protective goggles for disassembly and reassembly to protect your eyes from ink in working. If any ink gets in your eyes, wash your eyes with clean water and consult a doctor immediately.
2. When using compressed air products; such as air duster, for cleaning during repair and maintenance, the use of such products containing flammable gas is prohibited.

PRECAUTIONS

Strictly observe the following cautions. Failure to comply may lead to personal injury or damage of the product.

1. Repairs on Epson product should be performed only by an Epson certified repair technician.
2. No work should be performed on this product by persons unfamiliar with basic safety knowledge required for electrician.
3. The power rating of this product is indicated on the serial number/rating plate. Never connect this product to the power source whose voltages is different from the rated voltage.
4. Replace malfunctioning components only with those components provided or approved by Epson; introduction of second-source ICs or other non-approved components may damage the product and void any applicable Epson warranty.
5. The capacitors on the Main Board may be electrically charged right after the power turns off or after driving motors which generates counter electromotive force such as when rotating the PF Roller or when moving the CR Unit. There is a risk to damage the Main Board if the Head FFC is short-circuited with the capacitors on the Main Board electrically charged, therefore, after the power turns off or after motors are driven, leave the printer untouched for approximately 30 seconds to discharge the capacitors before starting disassembly/ reassembly.
6. To prevent the circuit boards from short-circuiting, be careful about the following when handling FFC or cables.
   - When handling FFC, take care not to let the terminal section of FFC touch metal parts.
   - When connecting cables/FFC to the connectors on circuit boards, connect them straight to the connectors to avoid slant insertion.

7. In order to protect sensitive microprocessors and circuitry, use static discharge equipment, such as anti-static wrist straps, when accessing internal components.
8. Do not tilt this product immediately after initial ink charge, especially after performing the ink charge several times. Doing so may cause ink to leak from the product because it may take some time for the waste ink pads to completely absorb ink wasted due to the ink charge.
9. Never touch the ink or wasted ink with bare hands. If ink comes into contact with your skin, wash it off with soap and water immediately. If you have a skin irritation, consult a doctor immediately.
10. When disassembling or assembling this product, make sure to wear gloves to avoid injuries from metal parts with sharp edges.
11. Use only recommended tools for disassembling, assembling or adjusting the printer.
12. Observe the specified torque when tightening screws.
13. Be extremely careful not to scratch or contaminate the following parts.
    - Nozzle plate of the Printhead
    - CR Scale
    - PF Scale
    - Coated surface of the PF Roller
    - Gears
    - Rollers
    - Scanner Sensor
    - Exterior parts
14. Never use oil or grease other than those specified in this manual. Use of different types of oil or grease may damage the component or give bad influence on the printer function.
15. Apply the specified amount of grease described in this manual.
16. Make the specified adjustments when you disassemble the printer.
17. When cleaning this product, follow the procedure described in this manual.
18. When transporting this product after filling the ink in the printhead, pack the printer without removing the ink cartridges in order to prevent the printhead from drying out.
19. Make sure to install antivirus software in the computers used for the service support activities.
20. Keep the virus pattern file of antivirus software up-to-date.
21. When disassembling/reassembling this product, if you find adhesive power of the double-sided tape which secure the parts or FFC is not enough, replace the tape with new one and attach it correctly to the specified points where the parts or FFC should be secured.
22. Unless otherwise specified in this manual, the labels attached on the returned product should be transferred to the corresponding attachment positions on the new one referring to the labels on the returned product.

About This Manual

This manual, consists of the following chapters, is intended for repair service personnel and includes information necessary for properly performing maintenance and servicing the product.

CHAPTER 1. TROUBLESHOOTING

Describes the step-by-step procedures for the troubleshooting.

CHAPTER 2. DISASSEMBLY / REASSEMBLY

Describes the disassembly/reassembly procedures for main parts/units of the product, and provides the standard operation time for servicing the product.

CHAPTER 3. ADJUSTMENT

Describes the required adjustments for servicing the product.

CHAPTER 4. MAINTENANCE

Describes maintenance items and procedures for servicing the product.

CHAPTER 5. APPENDIX

Provides the following additional information for reference:

- Connector Diagram
- Points to be checked before packing the printer
- Protection for Transportation

Symbols Used in this Manual

Various symbols are used throughout this manual either to provide additional information on a specific topic or to warn of possible danger present during a procedure or an action. Pay attention to all symbols when they are used, and always read explanation thoroughly and follow the instructions.

Indicates an operating or maintenance procedure, practice or condition that, if not strictly observed, could result in serious injury or loss of life.

Indicates an operating or maintenance procedure, practice, or condition that, if not strictly observed, could result in bodily injury, damage or malfunction of equipment.

May indicate an operating or maintenance procedure, practice or condition that is necessary to accomplish a task efficiently. It may also provide additional information that is related to a specific subject, or comment on the results achieved through a previous action.

For Chapter 2 “Disassembly/Reassembly”, symbols other than indicated above are used to show additional information for disassembly/reassembly. For the details on those symbols, see "2.2 Disassembly/Reassembly Procedures (p31)".

Revision Status

Revision	Date of Issue	Description
A	January 9, 2012	First Release

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CHAPTER **1**

TROUBLESHOOTING

1.1 Troubleshooting

This section describes the troubleshooting workflow and fatal error information.

In this chapter, the product names are called as follows:

- **L365/L366 Series:L365/L366**
- **L360/L362 Series:L360,L363/L362**
- **L310/L312 Series:L310,L313/L312**
- **L220/L222 Series:L220/L222**
- **L130/L132 Series:L130/L132**

1.1.1 Troubleshooting Workflow

The following page describes the troubleshooting workflow. Follow the flow when troubleshooting problems.

Start

Turn on the power*1

Does printer turn on the power?
- No → **Major problem without error message**

  No Power*2

  [Presumable Cause]
  - PS Unit damage
  - Main Board damage

  [Major Troubleshooting]
  - PS Unit replacement
  - Main Board replacement

- Yes

Is Power-on sequence finished without error?
- No → 1
- Yes

Standby condition

Print check pattern

Does an error occur when printing?
- No
- Yes

Is printing operation finished without trouble?
- No

  Major problem without error message

  Poor Printing

  [Phenomenon]
  - Poor printing quality
  - Ink stain on paper
  - Dot missing
  - Paper eject without printing

  [Presumable Cause]
  - Driver / Panel mis-setting
  - Contamination of CR scale
  - Contamination of Printhead cover
  - Printhead damage
  - Ink clogging of Printhead
  - Contamination on Cap Unit / Wiper of Ink System Assy
  - Ink System Assy damage
  - Float of Porous Pad on Paper Guide Front
  - Narrower/Wider PG (out of standard)
  - PE Sensor Lever damage
  - PE Sensor damage
  - Ink tank ventilation film gets wet.

  [Major Troubleshooting]
  - Driver / Panel re-setting
  - CR Scale replacement
  - Printhead cover cleaning
  - Printhead cleaning
  - Ink Cartridge replacement
  - Printhead replacement
  - Rubber cleaning of Cap Unit
  - Ink System Assy replacement
  - Porous Pad re-installation
  - Printer replacement
  - PE Sensor Lever replacement
  - PE Sensor replacement (Main Board replacement)
  - Ink tank replacement

  Poor Paper Loading

  [Presumable Cause]
  - Use of 3rd party media
  - Edge guide mis-setting
  - Foreign material
  - Part come-off
  - Contamination of LD Roller or PF roller

  [Major Troubleshooting]
  - Recommendation of EPSON media
  - Edge guide re-setting
  - Foreign material removal
  - Part re-installation
  - Roller replacement

  Abnormal Noise

  [Presumable Cause]
  - Foreign material
  - Insufficient grease
  - Gear damage

  [Major Troubleshooting]
  - Foreign material removal
  - Lubrication of grease
  - Gear replacement

  Blank printing

  [Phenomenon]
  Blank printing

  [Presumable Cause]
  - Ink tank ventilation film gets wet
  - Ink rumples
  - Ink onnection is incomplete.

  [Major Troubleshooting]
  - Ink tank replacement
  - Ink tube re-installation

- Yes

Copy an image

Is scanning operation finished without trouble?
- No

  Scanner failure

  [Presumable Cause]
  - Contamination of Scanner Glass
  - Contamination of Document Pad
  - CIS Unit bonding failure
  - CIS Unit damage
  - Scanner Motor damage
  - Insufficient grease

  [Major Troubleshooting]
  - Scanner Glass cleaning
  - Document Pad cleaning
  - Document Pad replacement
  - CIS Unit replacement
  - Scanner Motor replacement
  - Lubrication of grease

- Yes

Finish*3

1

Major problem with error message

Fatal error

Please refer to " 1.3 Fatal Error Code List (p13)".

Incomplete Initial Ink Charge

[Occurrence Condition]
Ink LED is ON and STM indicates "Initial ink charging is not complete".

[Major Occurrence Timing]
Print start timing.

[Troubleshooting]
Perform initial ink charge

Maintenance error

[Occurrence Condition]
This error occurs when maintenance counter in EEPROM exceeds the specified value.

[Major Occurrence Timing]
- Power-on timing
- Print start timing
- Cleaning timing
- Ink Cartridge replacement timing

[Troubleshooting]
- Porous Pad replacement & Maintenance counter reset

Ink End error

[Occurrence Condition]
This error occurs when ink counter reaches ink end level.

[Major Occurrence Timing]
- Power-on timing
- Print start timing
- Cleaning timing

[Troubleshooting]
- Refill ink and reset ink counter by panel.

Paper Jam Fatal error

[Occurrence Condition]
This error occurs when CR Unit is blocked by jammed paper.

[Major Occurrence Timing]
- Power-on timing

[Major Troubleshooting]
- Remove jammed paper

[NOTE]
On this product, if CR Unit touches jammed paper, CR Unit moves back in the opposite direction so that customer can remove the paper. However, if CR Unit cannot move in this sequence, this error occurs.

Paper Jam error

[Occurrence Condition]
This error occurs when top/ bottom of paper is not detected by PE Sensor in the specified steps of paper loading / ejecting operation correctly.

[Major Occurrence Timing]
- Power-on timing
- Paper loading timing
- Paper eject timing

[Major Troubleshooting]
1 Perform paper eject operation from operation panel.
- Success
  Starts paper feeding operation again if printer has print data.
- Fail
  Occurs paper jam error again.

2 If fail in the above 1, remove the paper by opening Scanner Unit.
3 Perform paper eject operation from operation panel again.
- Success
  Starts paper feeding operation again if printer has print data.
- Fail
  Occurs paper jam error again.

4 If fail in the above 3, check foreign material / part come-off / PE Sensor Lever / PE Sensor / Porous Pad on Paper Guide Front / Main board.

No Paper error

[Occurrence Condition]
This error occurs when top of paper can not be detected correctly by PE Sensor in the specified steps up to completion of the paper loading operation. (No paper / No loading / large paper skew)

[Major Occurrence Timing]
- Paper loading timing

[Major Troubleshooting]
1 Set paper in ASF and perform paper feed operation.
2 If the paper stops before reaching PE Sensor, remove it and check the paper condition.
3 A) If paper is OK, set paper in ASF and move edge guides to appropriate position, and perform 2 again.
B) If damage in the above 2, check foreign materials / parts come-off / parts transformation in paper path.
4 If not resolved by 3-A & 3-B, check foreign material / Part come-off / surface condition of LD Roller or PF Roller / PE Sensor Lever / PE Sensor / Main Board / PF Motor.

Double Feed error

[Occurrence Condition]
When manual duplex printing is selected using the printer driver, this error occurs if the actual paper length detected by PE Sensor does not match with the paper length specified in the printer driver. (The error occurs when the actual length is longer than the theoretical length specified in the driver.)

[Major Occurrence Timing]
- Paper loading timing
- Paper eject timing

[Troubleshooting]
- PE Sensor Lever replacement
- PE Sensor replacement (Main Board replacement)
- Main Board replacement

[NOTE]
This error may occur in the manual duplex printing if the inverted sheet printed on the first side sticks to the second sheet when the first side printing is complete and the sheet is inverted and set to ASF to print on the other side.

Paper Size Unmatch error

[Occurrence Condition]
This error occurs if the actual paper length detected by PE Sensor does not match with the paper length specified in the printer driver. (The error occurs no matter when the actual length is longer or shorter than the theoretical length specified in the driver.)

[Major Occurrence Timing]
- Paper eject timing

[Troubleshooting]
- PE Sensor Lever replacement
- PE Sensor replacement (Main Board replacement)
- Main Board replacement

*1: If the Hopper of ASF on the returned product touches the LD Roller, the initial ink charge has not been completed for the product yet.
*2: If the printer can turn on but turns off right away, the protection circuit may cut off the power due to an error such as a circuit failure.
*3: In case of “Not Trouble Found”, check fatal error code.

- **If the reason for the return is evident, first check the phenomenon user claims recurs, then proceed to the troubleshooting.**
- **This flowchart is compiled based on the following contents.**
  - **Our experience regarding the quality problem.**
  - **ESK’s repair data.**
  - **Printer Mechanism specification for the product.**

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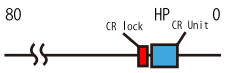
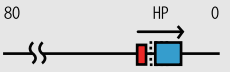
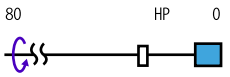
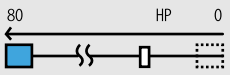
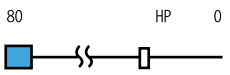
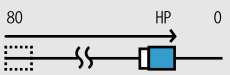
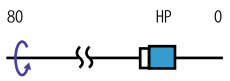
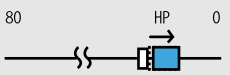
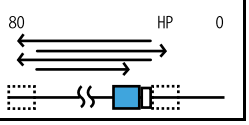
1.2 Power-On Sequence

This section describes the power-on sequences in two conditions. The preconditions are as follows.

☐ Condition 1: Normal power-on sequence (See Table 1-1.)

- Turning on the printer after turning it off without an error.
- Initial ink charge has finished and every cartridge has sufficient ink.
- No paper on the paper path.
- The Printhead is capped with the Cap Assy.
- The CR Unit is normally fixed by the Change Lever.
- Maintenance error recovery has never been performed.

Table 1-1. Condition 1: Normal Power-on Sequence

Operation*1	CR Unit/PF Roller movement and position*2
1. Printhead initialization and fuse inspection 1-1.Initializes the Printhead, and checks for the fuse on the circuit boards in the printer.*3	
2. Checking for waste ink overflow 2-1.Checks the waste ink counter if the waste ink overflow is occurring.	
3. Seeking the home position 3-1.The CR Unit moves to the 80-digit side slowly and confirms it touches the Change Lever (CR lock).	
3-2.The CR Unit moves to the 0-digit side slowly.	
3-3.After the PE Sensor checks if paper exists, the PF Motor rotates clockwise for one second and releases the CR lock.	
3-4.While checking if the CR Unit does not touch the Change Lever (CR lock) or the foreign material, the CR Unit moves to the 80-digit side slowly until it touches the Left Frame.	
3-5.The distance from the position where the CR Unit touched to the Left Frame is regarded as the standard distance from the origin position, and the home position is fixed. From then on, the CR Unit position is monitored according to the signals from the CR Encoder.	
3-6.The CR Unit moves to near its home position quickly.	
4. PF Motor Measurement 4-1.The PF Motor rotates clockwise until the PF Roller turns five times to perform a load measurement.	
5. Detecting ink cartridge and initializing ink system*4 5-1.The CR Unit returns to its home position.	
6. Low temperature operation sequence*5 6-1.The CR Unit quickly moves back and forth between near the Change Lever and near the Left Frame for two times.	

Note 1: The rotation directions of the PF Motor are as follows.

Clockwise:	Paper is fed normally
Counterclockwise:	Paper is fed backward

*2: The conditions of the CR lock are as follows.

Red	CR lock is set
White	CR lock is released

*3: The fatal error occurs if there is a problem such as the fuse blew.

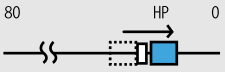
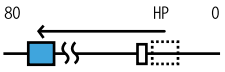
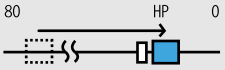
*4: The empty suction operation may occur depending on the situation.

*5: Executed when the detected temperature is under 5 ^{o}C (41^{o}F) by the thermistor on the Printhead.

☐ Condition 2: Power-on sequence after recovering from a paper jam error (See Table 1-2.)

- Turning on the printer after turning it off with a paper jam fatal error.
- There still remains paper on the paper path out of the detecting area of the PE Sensor.
- Maintenance error recovery has never been performed.

Table 1-2. Condition 2: Power-on Sequence after Recovering from a Paper Jam Error

Operation	CR Unit/PF Roller movement and position
Executes No.1 to No.3 on the normal power-on sequence (Table 1-1).	
4. Detecting remaining paper 4-1.5.The CR Unit returns to its home position.	
4-2.The CR Unit moves to the 80-digit side and confirms there is no paper.*1	
4-3.The CR Unit quickly returns to its home position, and displays on the LCD or with flashing LEDs that the paper jam error occurs.	
When the user removes the paper and releases the paper jam error by panel operation, the normal power-on sequence from No.1 (Table 1-1) is executed again.*2	

Note *1: "Paper exists" is detected when the CR Unit touches the paper. When "paper does not exist" is detected, the power-on sequence of condition 1 (Table 1-1) is executed from No.4.

*2: If the paper jam error cannot be solved after repeating the power-on sequence on condition 2 (Table 1-2) twice, the printer turns into the paper jam fatal error for the third time.

- **To recover from the maintenance error, the dedicated software that can be downloaded from the web site which can be accessed from STM3 is required.**
- **The printer operation related to the maintenance error recovery is as follows.**
  - **When the waste ink counter reaches the threshold value (1) for the first time and the maintenance error occurs, the counter threshold of the maintenance error is changed to threshold value 2 after performing recovery from the maintenance error.**
  - **After the threshold value (2) is enabled, the warning; to notify the possibility of ink leakage out of the printer, is displayed every time the waste ink counter increases by 1%.**
  - **If the waste ink counter reaches the threshold value (2), the maintenance error occurs. Then, the waste ink counter is changed back to the threshold value (1) after recovering from the maintenance error, and the warning is displayed repeatedly according to the increment of the waste ink counter until the maintenance error occurs when the threshold value (2) is reached.**
    (Recovery from the maintenance error can be performed up to the specified number of times.)

1.3 Fatal Error Code List

This section describes how to check the fatal error code, description, and the possible causes.

1.3.1 Printer Fatal Error Code

This section describes the fatal error code and the possible cause for this product.

Error type	Error code	Error name	Possible cause
Scanner	0x10	HP detection failure	• CIS Unit failure • Scanner Housing failure • Main Board failure • Insufficient grease • Foreign object • FFC for CIS failure / FFC for CIS connection failure
	0x14	Measurement error	• Scanner drive mechanism was overloaded. • Insufficient grease • Foreign object • Lack of gears • Deformation of the shaft
	0x20	LED light failure	• CIS Unit failure • Main Board failure
	0x51	Auto judge Fatal Error 1	---*
	0x52	Auto judge Fatal Error 2	
	0x53	Auto judge Fatal Error 3	
	0x54	Auto judge Fatal Error 4	
	0x55	Auto judge Fatal Error 5	
Printer	0x60	Home position	• Carriage overload error (paper jam/foreign object) • Deformation of the Main Frame • Ink system failure • CR Motor failure • Deformation of the Front Frame • CR Encoder failure (contaminated/detached scale, Encoder Board failure) • Cable disconnection
	0x63	Ink cartridge replacement timing contact detection error (Power off)	• Paper jam • Foreign object • Deformation of the Main Frame
	0x64	Paper-Jam cancelation disable error	• Paper jam • Foreign object
	0x81	PIS environmental error	• Diffused light
	0x82	PIS continuous reflected light error	• PIS failure • Main Board failure • Diffused light
	0x83	PIS No reflected light error	• PIS failure (installation posture, contamination)
	0x84	PIS shift length error	• Home position gap • Diffused light
	0x87	PIS Empty Jig error	• PIS failure (installation posture, contamination)
	0x88	Excessive Light error	• PIS failure • Main Board failure • Diffused light
	0x89	Insufficient Light error	• PIS failure (installation posture, contamination) • Main Board failure • Ink cartridge failure
	0x8F	EEPROM verify error (by command)	---*

Error type	Error code	Error name	Possible cause
Printer	0x9A	Circuit error (include blowout of a fuse)	• Main Board failure
	0x9B	Transistor temperature error	
	0x9C	X-Hot detect error (pre printing)	• Printhead failure • Main Board failure
	0x9D	X-Hot detect error (after flushing)	
	0x9E	Head temperature error	
	0xB9	Other Ink device error	• Ink cartridge failure • CSIC Terminal failure • CR Contact Module failure • Main Board failure • Cable disconnection
	0xBA	Other Ink device error	
	0xC0	CRCM access error	
	0xC1	CRCM access error	
	0xC3	Other Ink device error	
	0xE1	CR PID excess load error	• CR Encoder failure (contaminated/detached scale, Encoder Board failure) • CR Motor failure • Carriage overload error (paper jam/foreign object) • Cable disconnection
	0xE2	CR PID excess speed error	• CR Encoder failure (contaminated/detached scale, Encoder Board failure) • Motor driver failure (Main Board failure) • Slipping teeth of the CR Timing Belt • Improper tension of the CR Timing Belt
	0xE3	CR PID reverse error	• CR Encoder failure (contaminated/detached scale, Encoder Board failure) • Slipping teeth of the CR Timing Belt • Improper tension of the CR Timing Belt • Carriage overload error (paper jam/foreign object)
	0xE4	CR PID lock error	• CR Encoder failure (contaminated/detached scale, Encoder Board failure) • CR Motor failure • Carriage overload error (paper jam/foreign object) • Cable disconnection
	0xE8	CR load position reverse error	• CR Encoder failure (contaminated/detached scale, Encoder Board failure) • Slipping teeth of the CR Timing Belt • Improper tension of the CR Timing Belt • Carriage overload error (paper jam/foreign object)
	0xE9	CR load position excess speed error	• CR Encoder failure (contaminated/detached scale, Encoder Board failure) • Motor driver failure (Main Board failure) • Slipping teeth of the CR Timing Belt • Improper tension of the CR Timing Belt
	0xEA	CR load position excess load error	• CR Encoder failure (contaminated/detached scale, Encoder Board failure) • CR Motor failure • Carriage overload error (paper jam/foreign object) • Cable disconnection
	0xEE	CR PID driving time error	• Main Board failure
	0xEF	CR load position excess driving time error	
	0xF1	PF PID excess load error	• PF Encoder failure (contaminated/detached scale, Encoder Board failure) • PF Motor failure • PF drive mechanism overload (paper jam/foreign object) • Cable disconnection

Error type	Error code	Error name	Possible cause
Printer	0xF2	PF PID excess speed error	• PF Encoder failure (contaminated/detached scale, Encoder Board failure) • Motor driver failure (Main Board failure) • Slipping gears have occurred around the PF Motor gears.
	0xF3	PF PID reverse error	• PF Encoder failure (contaminated/detached scale, Encoder Board failure) • Slipping gears have occurred around the PF Motor gears. • Paper jam
	0xF4	PF PID lock error	• PF Encoder failure (contaminated/detached scale, Encoder Board failure) • PF Motor failure • PF drive mechanism overload (paper jam/foreign object) • Cable disconnection
	0xF8	PF load position reverse error	• PF Encoder failure (contaminated/detached scale, Encoder Board failure) • Slipping gears have occurred around the PF Motor gears.
	0xF9	PF load position reverse error	• PF Encoder failure (contaminated/detached scale, Encoder Board failure) • Motor driver failure (Main Board failure) • Slipping gears have occurred around the PF Motor gears.
	0xFA	PF load position excess load error	• PF Encoder failure (contaminated/detached scale, Encoder Board failure) • PF Motor failure • PF drive mechanism overload (paper jam/foreign object) • Cable disconnection
	0xFE	PF PID driving time error	• Main Board failure
	0xFF	PF load position excess driving time error	

Note "*": Not occurs except in manufacturing process.

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CHAPTER **2**

DISASSEMBLY/REASSEMBLY

2.1 Overview

In this chapter, the product names are called as follows:
- **L360/L362 Series:L365/L366**
- **L360/L362 Series:L360,L363/L362**
- **L310/L312 Series:L310,L313/L312**
- **L220/L222 Series:L220/L222**
- **L130/L132 Series:L130/L132**

This chapter describes procedures for disassembling the main parts/units of this product. Unless otherwise specified, disassembled parts/units can be reassembled by reversing the disassembly procedure. See the cautions or tips for disassembly/reassembly described in "2.3 Detailed Disassembly/Reassembly Procedure for each Part/Unit (p41)".
Read the "Safety Precautions(p3)" before disassembling and reassembling.
When you have to remove units or parts that are not described in this chapter, see the exploded diagrams of SPI (Service Parts Information).

2.1.1 Tools

Use only specified tools to avoid damaging the printer.

Name	Availability	EPSON Part Code
(+) Phillips screwdriver #1	O	1080530
(+) Phillips screwdriver #2	O	---
Flathead screwdriver	O	---
Flathead Precision screwdriver #1	O	---
Tweezers	O	---
Longnose pliers	O	---
Acetate tape	---	1003963

Note 1: Some of the tools listed above are commercially available.
2: EPSON provides the tools listed with EPSON part code.

2.1.2 Jigs

Name	Quantity	EPSON Part Code
Spring hook jig*	1	Can be made with a commercial item See " Making the Spring Hook Jig (p17)".
Thickness gauge (1.5 mm)	2	Commercially available
Thickness gauge (2.0 mm)	2	Commercially available
Sonic tension meter	1	1294120

Note *: If performing the disassembling/reassembling procedure is difficult using tweezers such as when reassembling " Cap Lever/Cap Assy (p44)", the spring hook jig helps you to remove/attach the spring easier.

2.1.2.1 Making the Spring Hook Jig

Fold a clip (commercial item) as shown in Fig. 2-1.

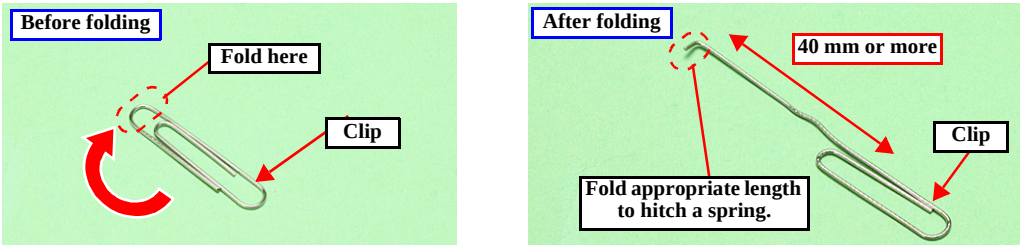


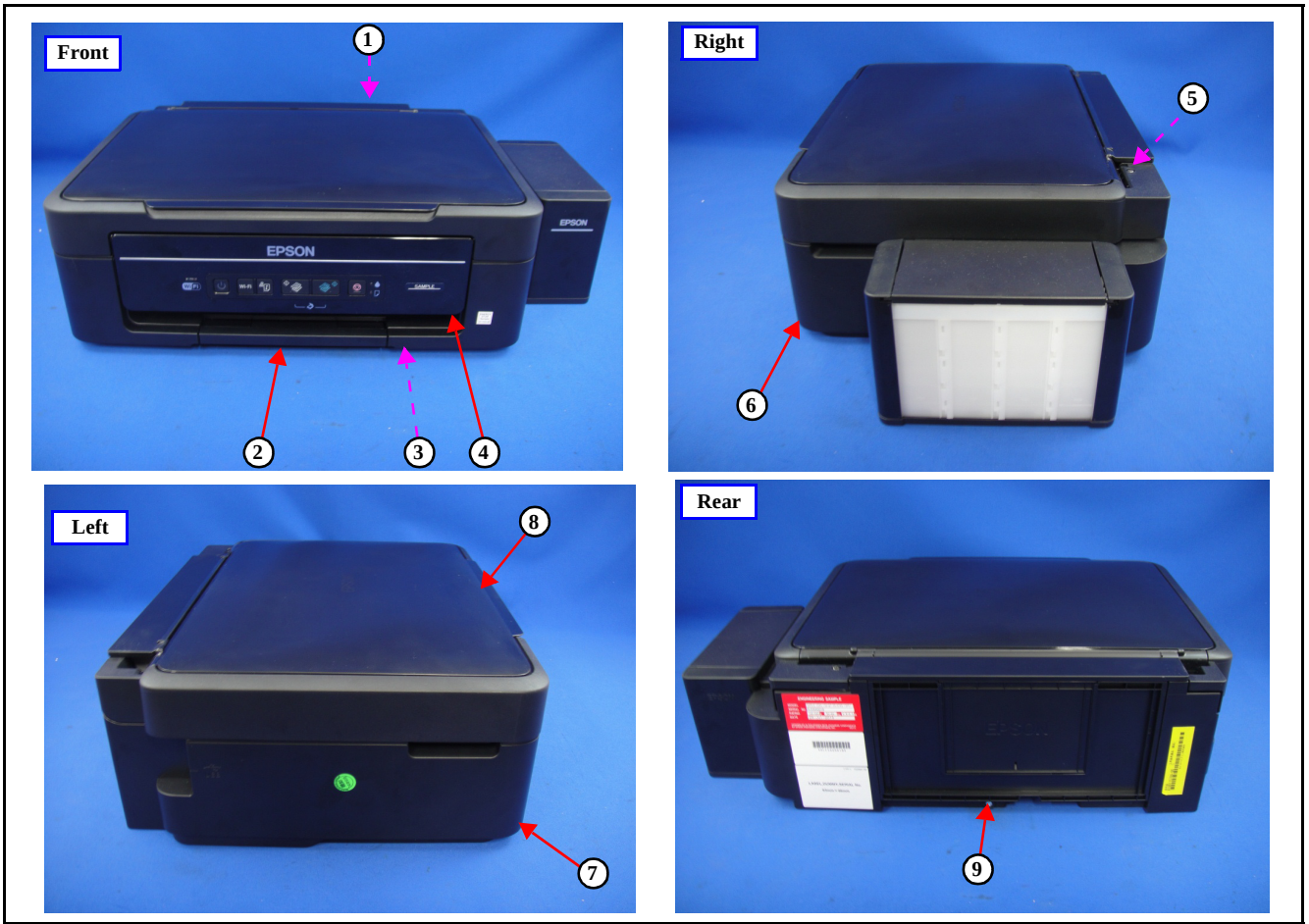
Figure 2-1. Making the Spring Hook Jig

2.1.3 Locations of the Parts/Units

This section shows the locations of the main parts/units of this product.

The parts/units which can not be seen in the following pictures are indicated in dotted lines (- - →).

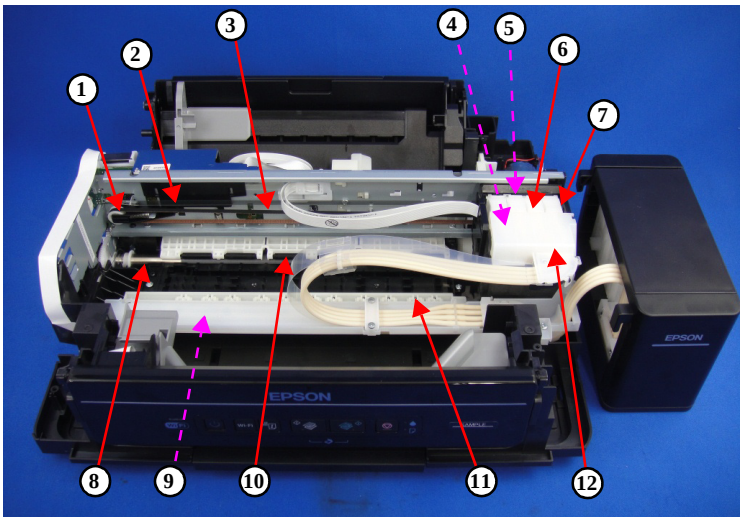
☐ Exterior parts



No.	Name	No.	Name
1	Housing Rear (p33) (L365/L366,L360/L362,L220/L222 Series only)	5	Hinge (p37) (L365/L366,L360/L362,L220/L222 Series only)
2	Tray Front Assy (p33)	6	Housing Right (p37) (L365/L366,L360/L362,L220/L222 Series only)
3	Frame Base Assy (p35)	7	Housing Left (p33) (L365/L366,L360/L362,L220/L222 Series only)
4	Panel Unit • L365/L366 Series (p 35) Panel Board Assy (p38) / Panel Buttons (p38) / Panel Housing Upper Assy (p38) / Panel Housing Lower Assy (p38) • L360/L362,L220/L222 Series (p 35) Panel Board Assy (p38) / Panel Buttons (p38) / Panel Housing Upper Assy (p38) / Panel Housing Lower Assy (p38)	8	Scanner Unit (p33) (L365/L366,L360/L362,L220/L222 Series only) Scanner Housing Upper (p37) / Scanner Carriage Unit (p37) / Scanner Housing Lower (p37) / CIS Module Unit (p37) / Scanner Motor (p37)
		9	Paper Support Assy (p33)

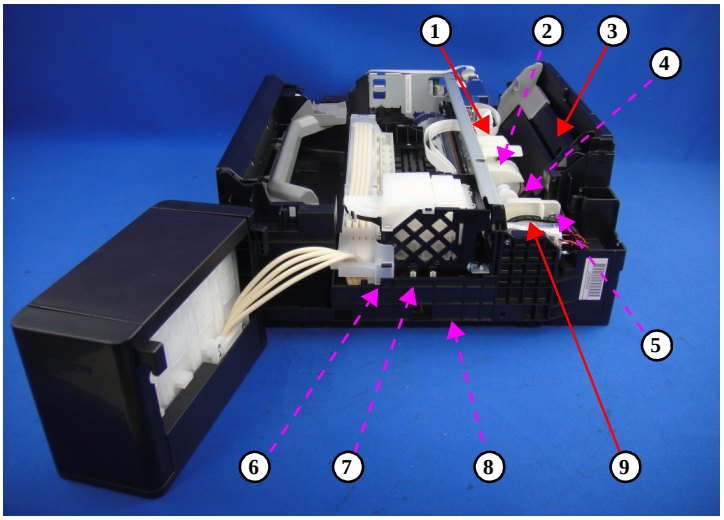
Figure 2-2. Exterior Parts

☐ Printer mechanism



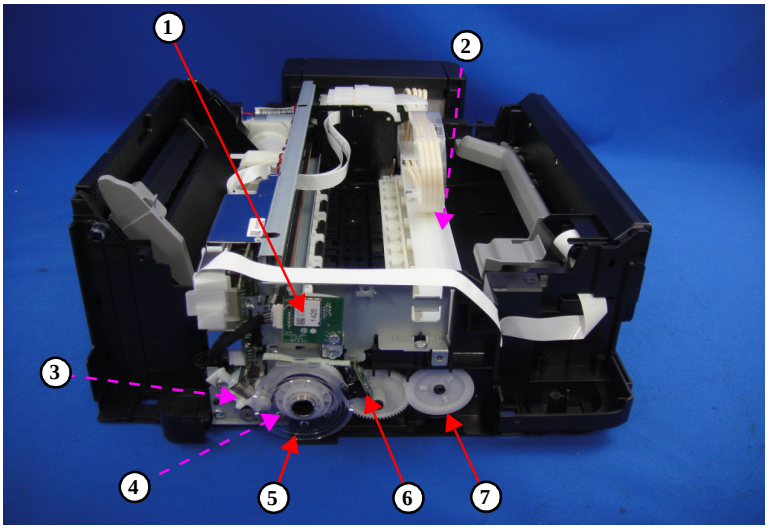
No.	Name	No.	Name
1	CR Driven Pulley Assy (p35)	7	CR Unit (p39)
2	CR Scale (p35)	8	PF Roller Unit (p39)
3	CR Timing Belt (p39)	9	Star Wheel Holder Assy (p37)
4	Printhead (p33)	10	Paper Guide Upper Assy (p39)
5	CR Encoder Sensor (p39)	11	Paper Guide Front Unit (p33)
6	Adapter (p37)	12	Adapter Cover (p37)

Figure 2-3. Printer Mechanism: Front



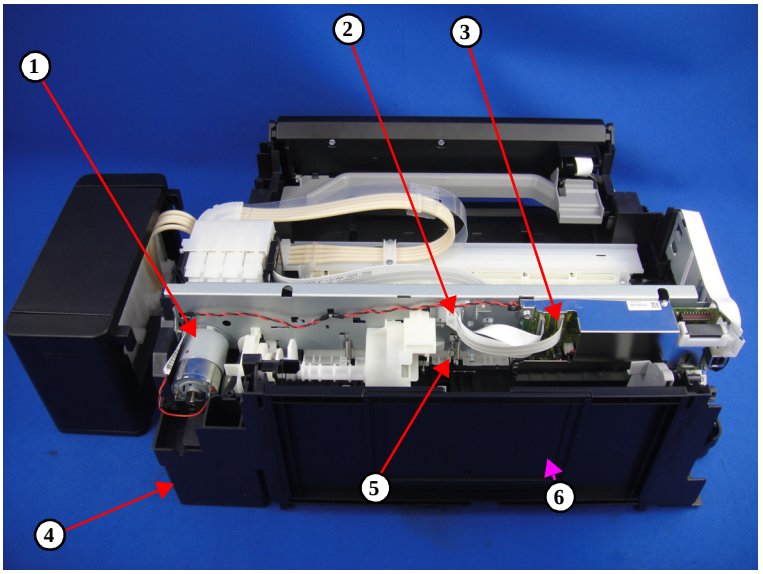
No.	Name	No.	Name
1	LD Roller Cover (p35)	6	Cap Lever (p37)
2	LD Roller Assy (p35)	7	Cap Assy (p37)
3	Hopper (p35)	8	Porous Pad for Cap Assy (p37)
4	Retard Roller Assy (p33)	9	Pump Unit (p39)
5	Paper Back Lever (p33)		

Figure 2-4. Printer Mechanism: Right



No.	Name	No.	Name
1	Wireless LAN Module (p33) (L365/L366 Series only)	5	PF Scale (p36)
2	EJ Roller (p37)	6	PF Encoder Sensor (p36)
3	PF Motor Assy (p39)	7	EJ Roller Gear (p33)
4	PF Timing Belt (p36)		

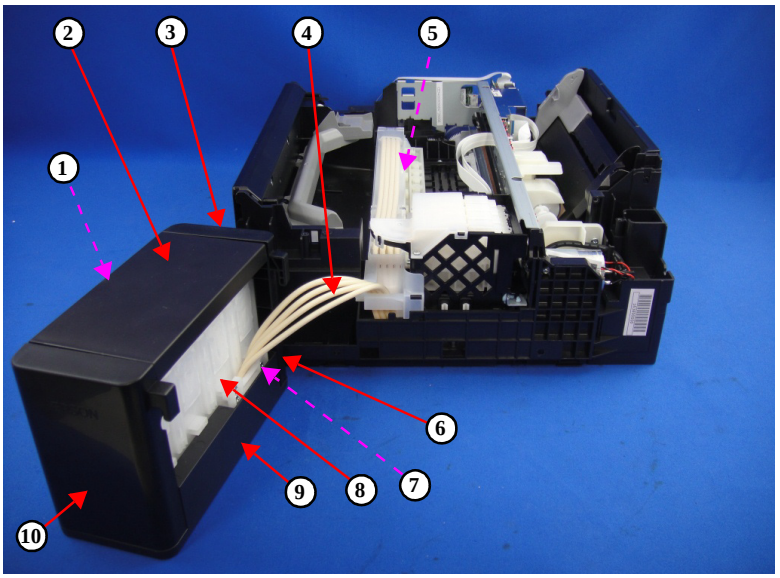
Figure 2-5. Printer Mechanism: Left



No.	Name	No.	Name
1	CR Motor (p35)	4	Waste Ink Pad Assy (p33)
2	Head FFC (p39)	5	PE Sensor Lever (p35)
3	Main Board (p35)	6	PS Unit (p33)

Figure 2-6. Printer Mechanism: Rear

☐ Ink Supply Tank Assy



No.	Name	No.	Name
1	Cover Joint (p36)	7	Guide Tube Tank (p36)
2	Top Cover (p36)	8	Ink Supply Tank Ink Supply Tank (Cyan) (p36)/Ink Supply Tank (Magenta) (p36)/Ink Supply Tank (Yellow) (p36)/Ink Supply Tank (Black) (p36)
3	Right Cover (p36)		
4	Ink Supply Tank Tube Assy (p36)		
5	Ink Supply Tube Assy (p37)	9	Bottom Cover (p36)
6	Cover Tube Tank (p36)	10	Left Cover (p36)

Figure 2-7. Ink Supply Tank Assy

2.1.4 Standard Operation Time for Servicing the Product

The following are the standard operation time for servicing the product. This standard operation time was determined with the MTTR result measured using the prototype of L360/L362 Series which have the most functions. For other models described in this manual, perform the repair work referring to this standard operation time though the time varies due to the structural difference between models.

The underlined parts/units are supplied as After Service Parts.

Table 2-1. Standard Operation Time

Parts/Unit	Time (mm:ss)		
	Replacement	Adjustment/ inspection	Total
Housing Rear	0:49	---	0:49
Paper Support Assy	0:12	---	0:12
Tray Front Assy	0:13	1:31	1:44
Document Cover	0:10	---	0:10
Star Wheel Holder Assy	3:47	3:18	7:05
Paper Guide Front Unit	0:37	7:44	8:21
Holder Board	3:16	---	3:16
FFC Cover Outer	2:05	---	2:05
Print Head	4:54	17:39	22:33
Waste Ink Pad Assy	0:31	0:45	1:16
Paper Back Lever	1:41	---	1:41
Retard Roller Assy	1:49	0:47	2:36
Scanner Unit	1:46	2:52	4:36
Scanner Housing Upper	3:17	---	3:17
Scanner Housing Lower	3:17	---	3:17
CIS Module Unit	3:26	---	3:26
Spacer	3:54	---	3:54
CIS Module	3:54	---	3:54
Scanner Carriage Unit	3:37	---	3:37
Scanner Carriage	4:15	---	4:15
CIS Holder Unit	7:05	---	7:05
Scanner Motor	7:05	2:52	9:57
Housing Left	2:44	---	2:44
PS Unit	3:13	1:28	4:41
PF Encoder Sensor	3:20	---	3:20
PF Scale	3:35	---	3:35
PF Driven Pully Assy	4:10	1:10	5:20
PF Timing Belt	4:57	1:10	6:07
Wireless LAN Module	3:18	---	3:18
EJ Roller Gear	2:58	---	2:58
EJ Roller	5:08	3:18	8:26
Hinge	2:02	---	2:02
Housing Right	2:16	---	2:16
Cap Assy	3:16	---	3:16
Porous Pad for Cap Assy	3:23	---	3:23

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Table 2-1. Standard Operation Time

Parts/Unit		Time (mm:ss)		
		Replacement	Adjustment/ inspection	Total
Cap Lever		3:32	---	3:32
Panel Unit		4:21	---	4:21
Panel Housing Lower Assy		5:02	---	5:02
Panel Board Assy		5:21	---	5:21
Panel Bottons		5:37	---	5:37
Panel Housing Upper Assy		5:37	---	5:37
CR Scale		4:06	---	4:06
LD Roller Cover		4:03	---	4:03
LD Roller Assy		5:29	0:47	6:16
Hopper		4:06	6:03	10:09
FFC Holder MB		4:45	---	4:45
Shield Plate		7:56	---	7:56
PE Sensor Lever		9:26	0:47	10:13
Main Board	EEPROM Data Copy OK	8:37	1:10	9:47
	EEPROM Data Copy NG	8:37	27:58	36:35
CR Motor		8:44	1:00	9:44
CR Driven Pulley Assy		3:49	3:07	6:56
Main Frame Assy		7:15	11:16	18:31
Paper GuideUpper Assy		9:20	7:21	16:41
CR Unit		12:52	9:52	22:44
CR Timing Belt		12:31	0:40	13:11
CR Encoder Sensor		13:13	---	13:13
Head FFC		14:19	---	14:19
FFC Holder		13:51	---	13:51
Frame Base Assy		8:07	8:51	16:58
Pump Unit		9:53	---	9:53
PF Grounding Spring		10:12	---	10:12
Spur Gear 16.5		10:21	---	10:21
PF Roller Unit		13:11	5:51	19:02
PF Motor Assy		11:43	1:08	12:51
Frame Base		11:43	6:53	18:36
Tube Cover		0:22	---	0:22
Ink Supply Tank Assy		4:57	---	4:57
Top Cover		0:10	---	0:10
Cap Tank		0:22	---	0:22
Bottom Cover		1:44	---	1:44
Cover Tube Tank		0:55	---	0:55
Guide Tube Tank		1:06	---	1:06
Left Cover		2:34	---	2:34
Right Cover		2:07	---	2:07
Cover Joint		2:39	---	2:39
Ink Supply Tank (Magenta)		4:11	---	4:11
Ink Supply Tank (Yellow)		4:11	---	4:11

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Table 2-1. Standard Operation Time

Parts/Unit	Time (mm:ss)		
	Replacement	Adjustment/ inspection	Total
Ink Supply Tank (Cyan)	4:11	---	4:11
Ink Supply Tank (Black)	4:11	---	4:11
Ink Supply Tank Tube Assy	3:30	---	3:30
Tube Guide Sheet Sub	0:30	---	0:30
Tube Pressing Plate	0:52	---	0:52
Ink Supply Tube Guide 1st	0:06	---	0:06
Ink Supply Tube Guide 2nd	3:25	---	3:25
Joint	2:20	---	2:20
Adapter Cover	0:37	---	0:37
Ink Supply Tube Assy	2:11	---	2:11
Tube Guide Sheet	1:39	---	1:39
Adapter	1:49	---	1:49

2.1.5 Checks and Precautions before Disassembling

2.1.5.1 Factors which Affect the Print Quality

HOW TO PLACE THE INK TANK ASSY WHEN DISASSEMBLING/REASSEMBLING

Do not place the Ink Supply Tank Assy with Ventilation Hole side down. Otherwise, ink in the Ink Supply Tank Assy may reach and cover the ventilation Hole, and the ink in the Ink Supply Tank Assy may leak.

In order to prevent this from occurring, make sure to place the Ink Supply Tank Assy as shown below after removing it.

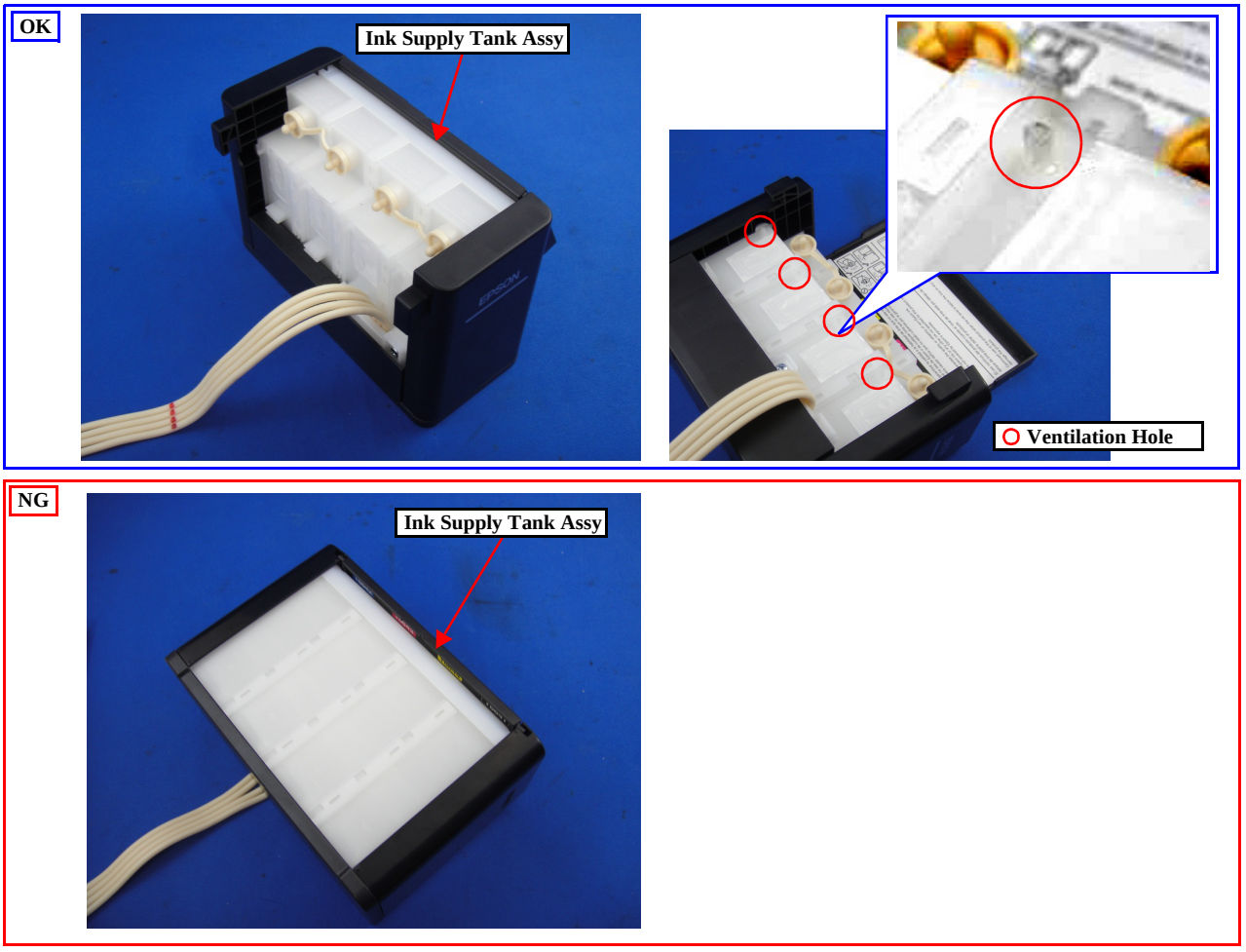

Figure 2-8. How to Place the Ink Tank Assy

2.1.5.2 Factors which Affect the Safety of Service Personnel such as Ink Leakage during Operation

Ink may spill when removing the following parts from L365/L366,L360/L362,L310/L312,L220/L222,L130/L132 Series.
This section describes the parts that may cause ink spill and the means to minimize the ink spill when removing the parts.

THE PARTS THAT MAY CAUSE INK SPILL WHEN REMOVING

Parts	When ink may spill	Location
Joint	Removing the Ink Supply Tank Tube Assy / Ink Supply Tube Assy from the Joint	A
Ink Supply Tank	• Removing the tubes of the Ink Supply Tank Tube Assy from the Joint • Removing the tubes of the Ink Supply Tank Tube Assy from the Ink Supply Tank	A, B
Ink Supply Tank Tube Assy		
Adapter	Removing the Ink Supply Tube Assy from the Adapter	C
Ink Supply Tube Assy	• Removing the Ink Supply Tank Tube Assy / Ink Supply Tube Assy from the Joint • Removing the Ink Supply Tube Assy from the Adapter	A, C

Note : These parts are indicated with the icon in disassembly/reassembly flowchart. (See "2.2 Disassembly/Reassembly Procedures (p31)".)

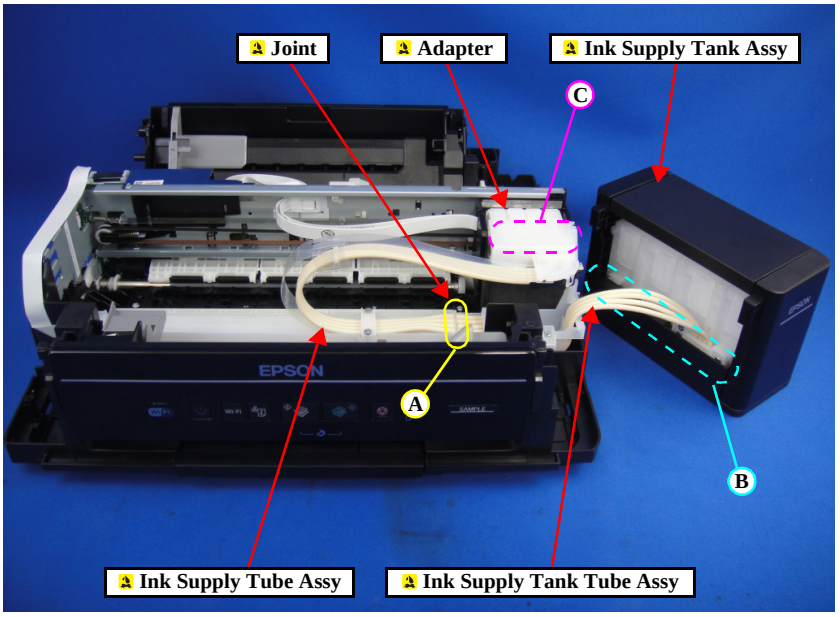

Figure 2-9. Location

MEANS DO TO MINIMIZE THE INK SPILL

Even observing the points described in this section, ink may spill in the following situations. Therefore, be careful not to contaminate the inside of the printer or its surroundings by preparing the container to receive the leaked ink, or the like.

- **When removing the Ink Supply Tank Tube Assy, some ink will spill from both ends of the tube .**
- **When removing the Ink Supply Tube Assy, all the ink in the tube will spill.**

Before disassembling, confirm that the printer is in the following condition.

☐ Adapter is removed

Before disconnecting the joint parts of the ink path, make sure that the Adapter is removed from the Carriage.

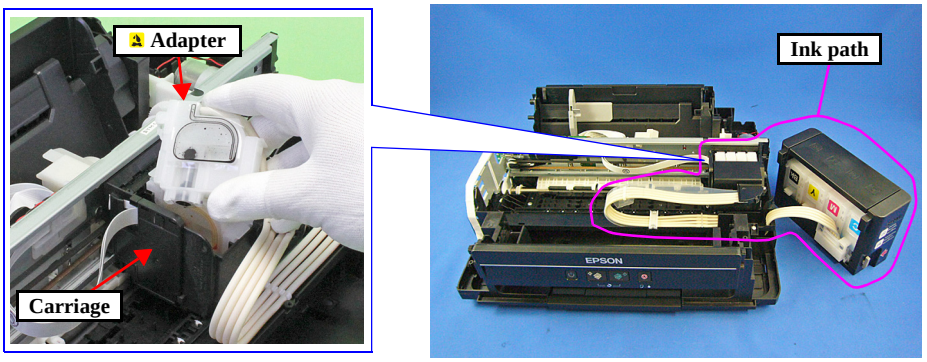

Figure 2-10. Adapter

DISCHRGING INK FROM THE INK SUPPLY TANK

Discharging ink is recommended only when disconnecting the Ink Supply Tank Tube Assy from the Ink Supply Tank. Before performing the above disconnection, discharge ink from the Ink Supply Tank as follows.

- Necessary tools
  - Containers (x 4) for each discharged ink
  - Injector (with a tip of ϕ3.2 mm)
  - Clips (x 2)
  - Cotton swab (x 4)

- **When disconnecting the Ink Supply Tube/Ink Supply TankTube from the Joint, ink may leak from the ink tube. Preparea container to receive the leaking ink to prevent the productfrom getting contaminated by the leaked ink .**
- **Prior to the following steps, connect the injector with the tube, and then discharge ink according to the procedure.**

Discharging preparation

1. Remove the screw (x 3) of the Guide Tube 1st and the Tube Pressing Plate .
2. Release the hook of the Guide Tube Sub , Release the Guide Tube from Dowel .
3. Release the Ink Supply Tube from rib, and release the Guide Tube 1st from the Frame Base Assy.

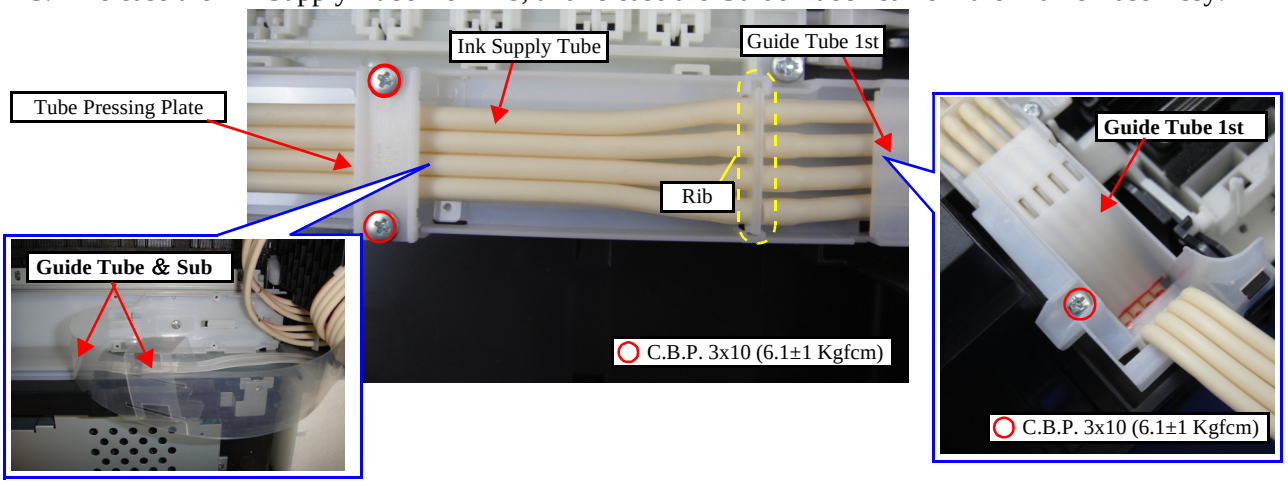

Figure 2-11. Discharging preparation (1)

4. Move the Carriage to right side .
5. Release the Joint from the rib of Guide Tube 1st .

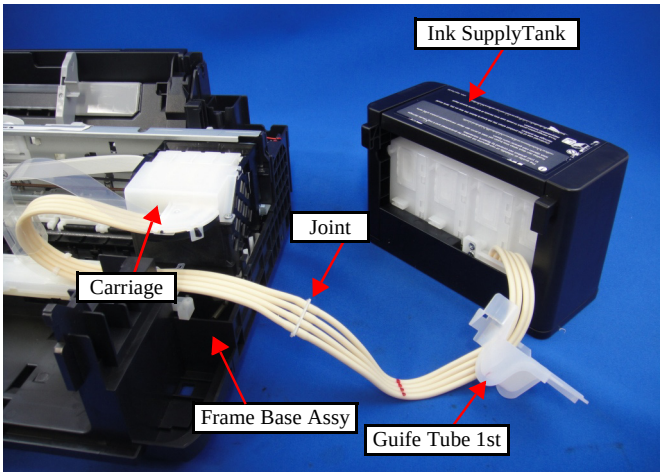

Figure 2-12. Discharging preparation (2)

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■ Discharging procedure

1. Release the Ink Supply Tank Assy.(**Refer to** Cotton swab (x 4) (p.28))
2. Place the Ink Supply Tank Assy on a place where its bottom is higher than the top of the Printhead.
3. To minimize the ink leakage from the Ink Supply Tube / Ink Supply Tank Tube , pinch the Ink Supply Tube / Ink Supply Tank Tube with clips (x 2) .

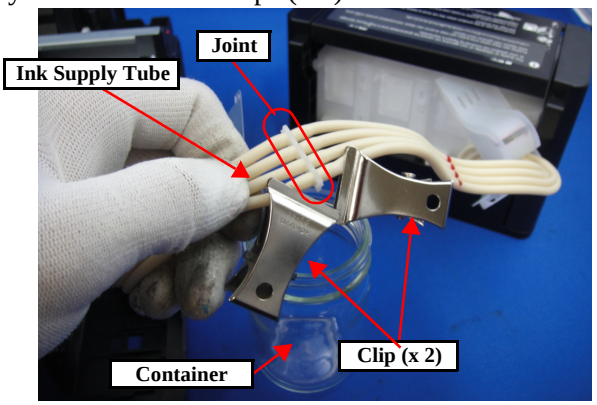


Figure 2-13. Discharging Ink (1)

4. Prepare a container for ink to discharge, then disconnect the Ink Supply Tube from the joint and put its tip into the container for the ink.
5. To discharge the ink in the Ink Supply Tank Assy to the container.

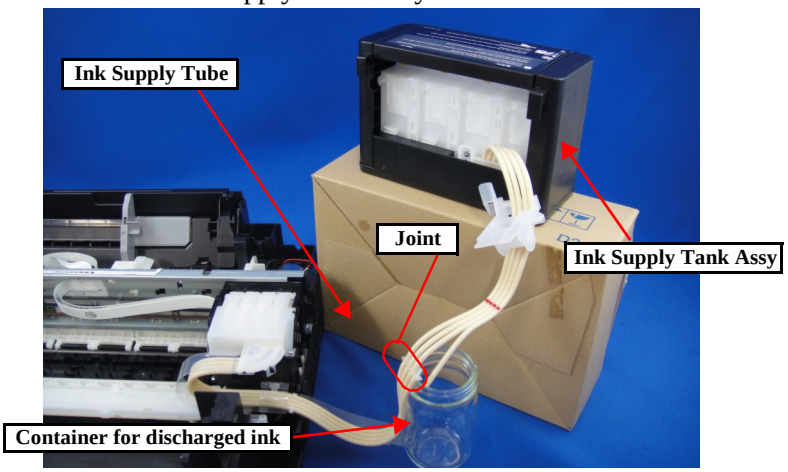


Figure 2-14. Discharging Ink (2)

6. Move the clips (x2) so that only the ink to discharge can flow in the Ink Supply Tank Tube .
7. The ink in the Ink Supply Tank is discharged into the container through the Ink Supply Tank Tube.
8. Repeat step 4 to Step 7 for all ink tanks to discharge all ink in the Ink Supply Tank .

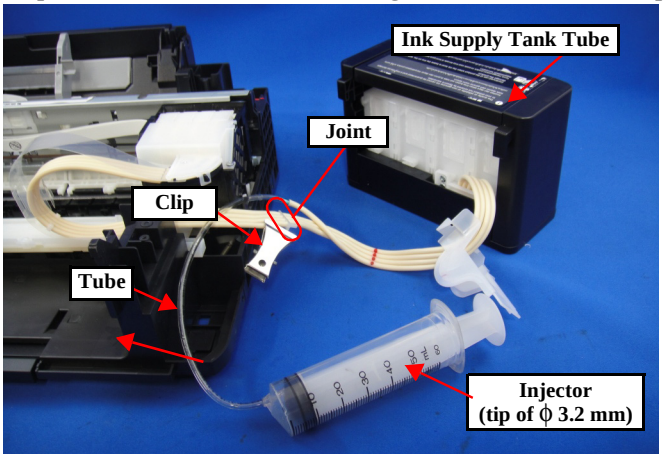
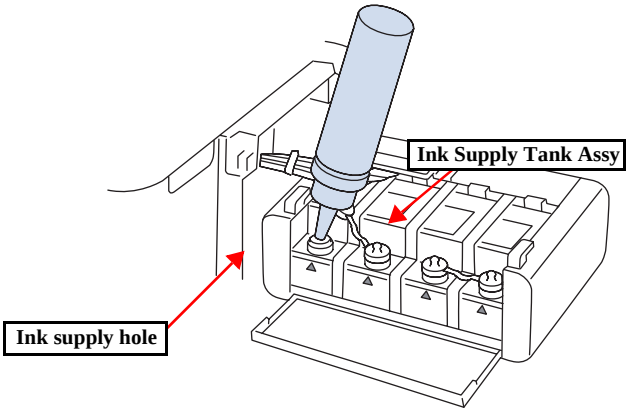


Figure 2-15. Discharging Ink (3)

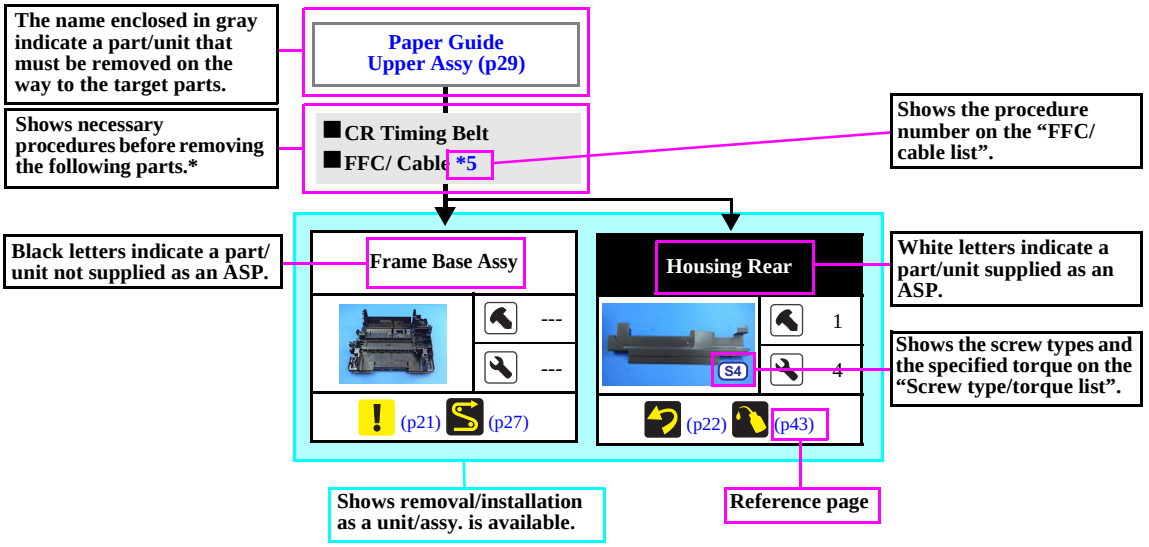
- **It is recommended that the ink in the Ink Supply Tank should be discharged completely before proceeding to disassembling/reassembling.**
- **After all the reassembling work is complete, the discharged ink of each color should be refilled back to the Ink Supply Tank before performing the adjustment. Confirm the colors indicated on the film of the Ink Supply Tank so as not to mistake them, and make sure to refill each ink back to the correct tank from the corresponding ink supply hole.**



2.2 Disassembly/Reassembly Procedures

This section describes procedures for disassembling the parts/units in a flowchart format. For some parts/units, detailed procedures or precautions are provided (accordingly indicated by icons and cell's color). Refer to the explanations in the example chart below and perform an appropriate disassembling and assembling procedure. (See "2.3 Detailed Disassembly/Reassembly Procedure for each Part/Unit (p41)".)
For routing cables, see "2.4 Routing FFCs/cables (p50)".

The example below shows how to see the charts on the following pages.


The name enclosed in gray indicate a part/unit that must be removed on the way to the target parts.
Paper Guide Upper Assy (p29)
Shows necessary procedures before removing the following parts.*
■CR Timing Belt
■FFC/ Cable *5
Shows the procedure number on the "FFC/ cable list".
Black letters indicate a part/ unit not supplied as an ASP.
Frame Base Assy

(p21)
(p27)
Housing Rear
1
4
S4
(p22)
(p43)
White letters indicate a part/unit supplied as an ASP.
Shows the screw types and the specified torque on the "Screw type/torque list".
Shows removal/installation as a unit/assy. is available.
Reference page

Note "*": The box with only part names means the removal of the parts. If the name of FFC or a cable is shown, disconnect the FFC or cable from the connector.

Item		Description	Reference
Parts/unit name	White-letter	Part/unit supplied as an ASP	---
	Black-letter	Part/unit not supplied as an ASP	---
Icon		Indicates a practice or condition that could result in injury or loss of life if not strictly observed.	Indicates the reference page in blue-letter
		Indicates a practice or condition that could result in damage to, or destruction of equipment if not strictly observed.	Indicates the reference page in blue-letter
		Indicates the parts that are inevitably broken in the disassembling procedure, and should be replaced with a new one for reassembly.	Indicates the reference page in blue-letter
		Indicates the parts that may cause the ink spill when they are removed.	"2.1.5 Checks and Precautions before Disassembling (p25)"
		Indicates necessary check items in the disassembling/ assembling procedure.	Indicates the reference page in blue-letter
		Indicates supplementary explanation for disassembly is given.	Indicates the reference page in blue-letter
		Indicates particular tasks to keep quality of the units are required.	Indicates the reference page in blue-letter
		Indicates particular routing of cables is required.	Indicates the reference page in blue-letter
		Indicates particular adjustment(s) is/are required.	Chapter 3 " Adjustment (p53)"
		Indicates lubrication is required.	Chapter 4 " Maintenance (p65)"
		Indicates the number of screws securing the parts/ units.	---
		Indicates the points secured with other than a screw such as a hook, rib, dowel or the like.	---

2.2.1 Disassembly Flowchart

L365/L366,L360/L362,L310/L312,L220/L222,L130/L132 Series described in this manual have differences in their structure because the same printer mechanism is used for some of them and the composition of housings or functions differs.

The functions and differences according to the models are as follows.

Table 2-2. Function List According to Models

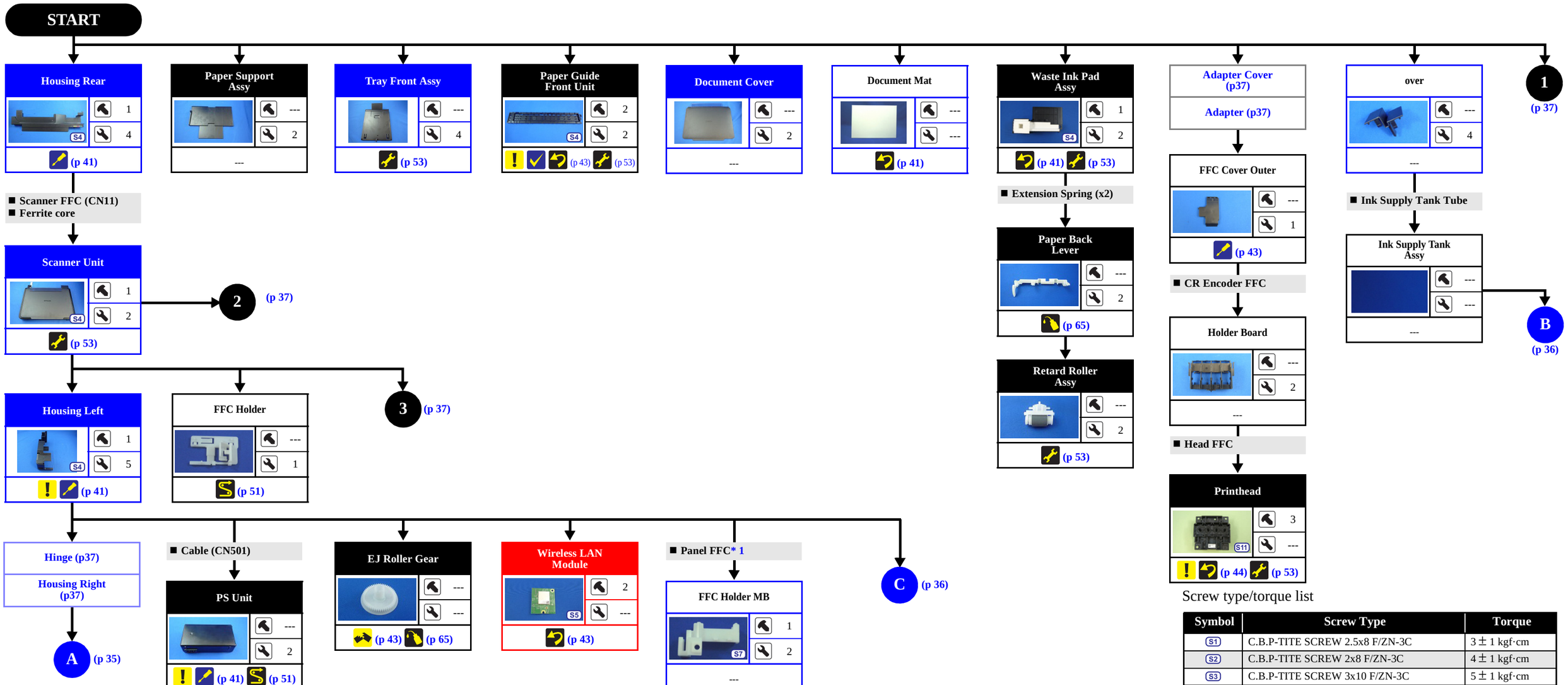
Item		L365/L366 Series	L360/L362 Series	L220/L222 Series	L310/L312 Series	L130/L132 Series
Scanner		O	O	O	---	---
Panel	Movable type	O	---	---	---	---
	Locked type	---	O	O	---	---
	Button type	---	---	---	O	O
Wireless LAN		O	---	---	---	---
Low cost parts		---	---	O	---	O
Disassembly Flowchart Start Position		p 33	p 33	p 33	p 34	p 34

Table 2-3. Components According to Functions

Item	Specification
Scanner	The shape and unit of components below differ due to the difference of specifications of Scanner Unit. • Scanner Unit • Hinge • Housing Rear/Left/Right • Main Board • Shield Plate
Panel	The shape and unit of components below differ due to the difference of specifications of Panel Unit. • Panel Unit
Wireless LAN	The following part is not mounted on the models without the Wireless LAN. • Wireless LAN Module
Low cost parts	• CR Timing Belt • CR Motor • PF Motor • Housings, others

Therefore, parts and units are colored and classified into 5 types in the flowchart given in this section.

- Common parts/unit: Black
- L365/L366,L360/L362,L220/L222 Series: Blue
- L365/L366 Series: Red
- L310/L312,L130/L132 Series: Green
- L220/L222,L130/L132 Series: Orange



The following parts can be replaced without removing the Scanner Unit. However, the working space for replacement is narrow and dark. Therefore, if you find it difficult to work, remove the Scanner Unit first before replacement.

- **Printhead/Holder Board**
- **Paper Guide Front Unit**

Common parts/unit

L365/L366 Series specific parts/ unit

L365/L366,L360/L362,L220/ L222 Series specific parts/unit

L310/L312,L130/L132 Series specific parts/unit

L210/L222,L130/L132 Series specific parts/unit

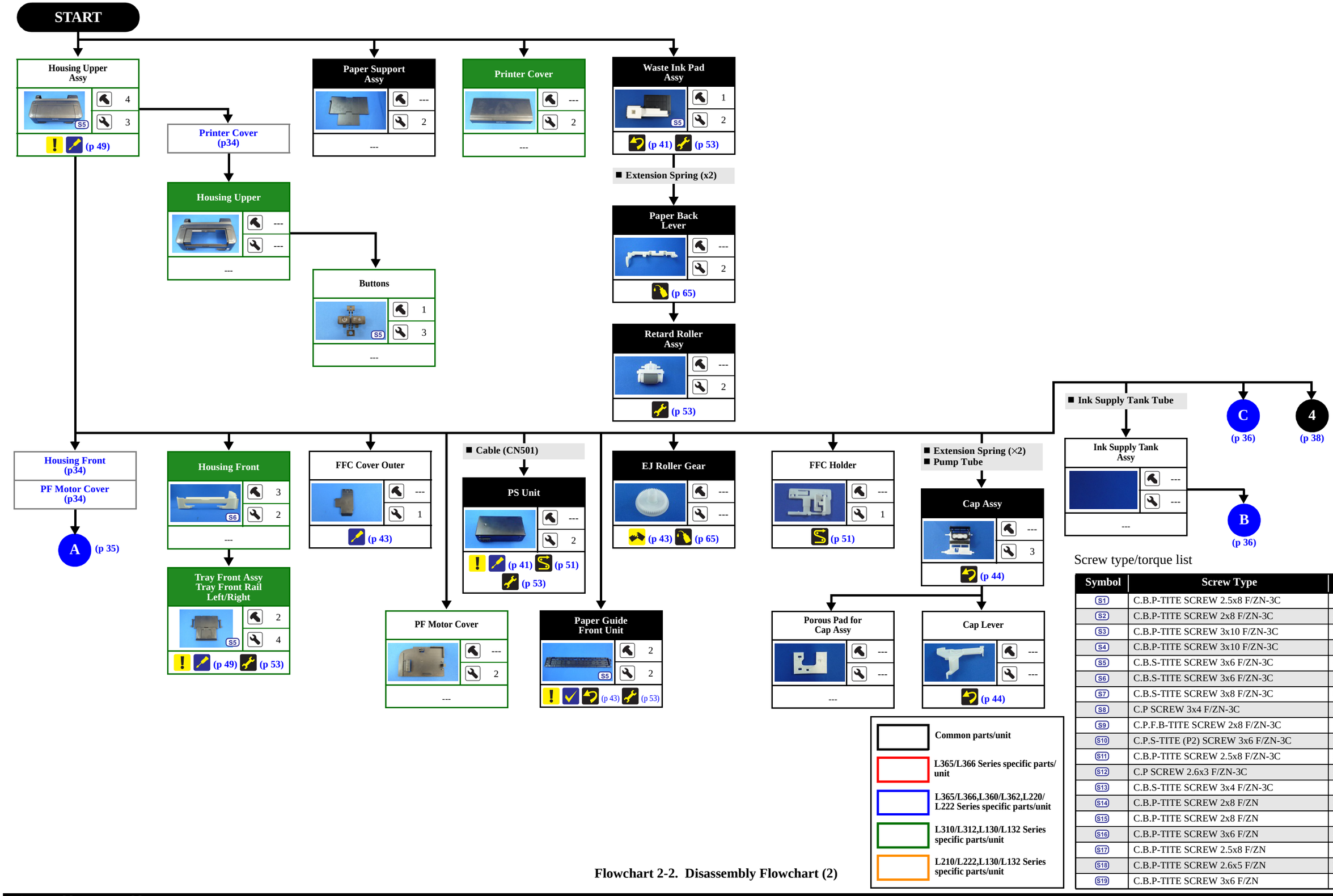
FFC/cable list

No.	FFC/Cable
1	Disconnect the Panel FFC (CN2), and remove the ferrite core.

Screw type/torque list

Symbol	Screw Type	Torque
S1	C.B.P-TITE SCREW 2.5x8 F/ZN-3C	3 ± 1 kgf·cm
S2	C.B.P-TITE SCREW 2x8 F/ZN-3C	4 ± 1 kgf·cm
S3	C.B.P-TITE SCREW 3x10 F/ZN-3C	5 ± 1 kgf·cm
S4	C.B.P-TITE SCREW 3x10 F/ZN-3C	6 ± 1 kgf·cm
S5	C.B.S-TITE SCREW 3x6 F/ZN-3C	4 ± 0.5 kgf·cm
S6	C.B.S-TITE SCREW 3x6 F/ZN-3C	6 ± 1 kgf·cm
S7	C.B.S-TITE SCREW 3x8 F/ZN-3C	6 ± 1 kgf·cm
S8	C.P SCREW 3x4 F/ZN-3C	4 ± 1 kgf·cm
S9	C.P.F.B-TITE SCREW 2x8 F/ZN-3C	4 ± 1 kgf·cm
S10	C.P.S-TITE (P2) SCREW 3x6 F/ZN-3C	7 ± 1 kgf·cm
S11	C.B.P-TITE SCREW 2.5x8 F/ZN-3C	5 ± 0.5 kgf·cm
S12	C.P SCREW 2.6x3 F/ZN-3C	4 ± 0.5 kgf·cm
S13	C.B.S-TITE SCREW 3x4 F/ZN-3C	2 ± 0.5 kgf·cm
S14	C.B.P-TITE SCREW 2x8 F/ZN	2 ± 0.5 kgf·cm
S15	C.B.P-TITE SCREW 2x8 F/ZN	25 ± 0.5 kgf·cm
S16	C.B.P-TITE SCREW 3x6 F/ZN	4 ± 1 kgf·cm
S17	C.B.P-TITE SCREW 2.5x8 F/ZN	6 ± 1 kgf·cm
S18	C.B.P-TITE SCREW 2.6x5 F/ZN	3 ± 0.5 kgf·cm
S19	C.B.P-TITE SCREW 3x6 F/ZN	3 ± 0.5 kgf·cm

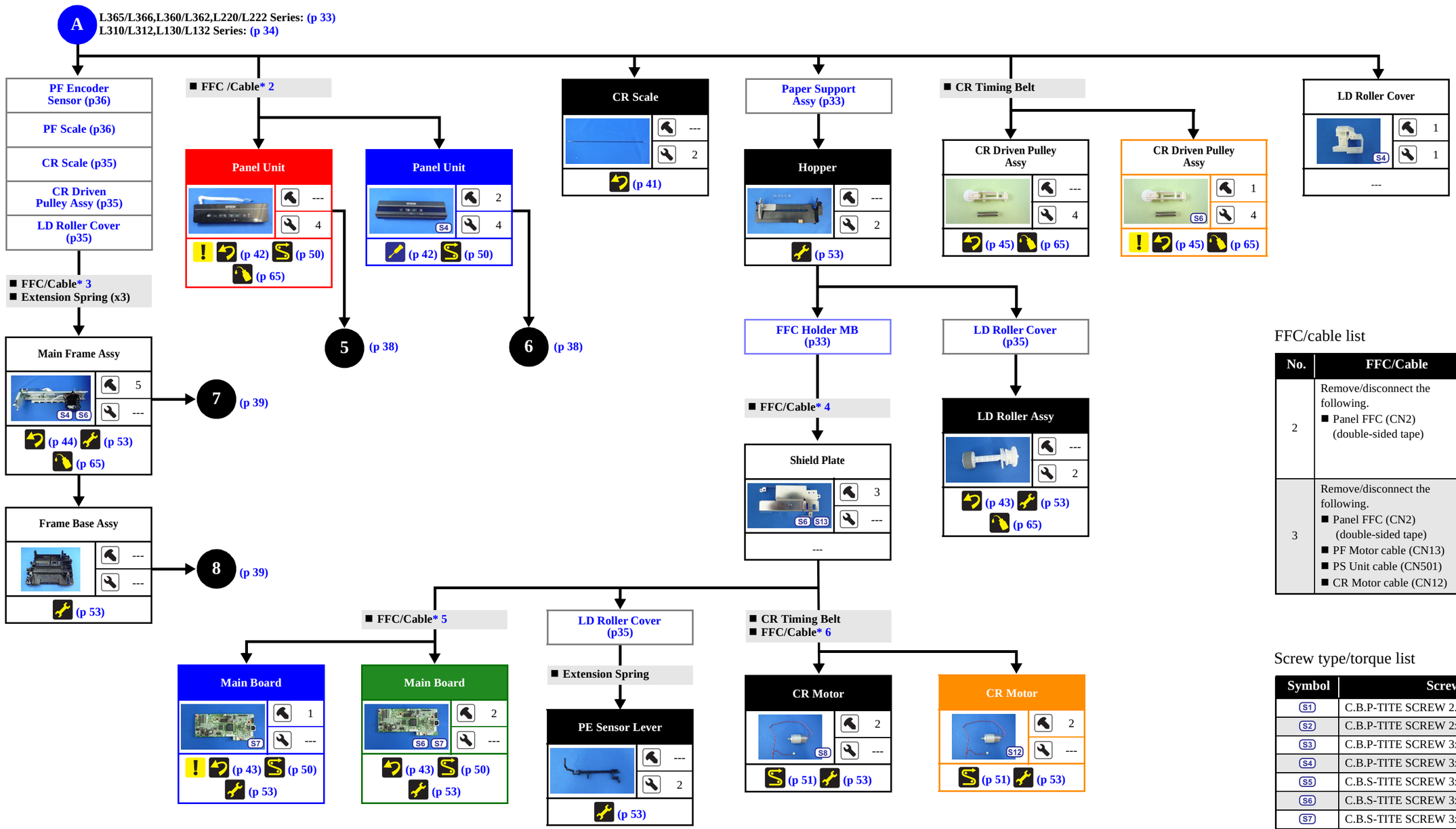
Flowchart 2-1. Disassembly Flowchart (1)



Flowchart 2-2. Disassembly Flowchart (2)

Screw type/torque list

Symbol	Screw Type	Torque
S1	C.B.P-TITE SCREW 2.5x8 F/ZN-3C	3 ± 1 kgf·cm
S2	C.B.P-TITE SCREW 2x8 F/ZN-3C	4 ± 1 kgf·cm
S3	C.B.P-TITE SCREW 3x10 F/ZN-3C	5 ± 1 kgf·cm
S4	C.B.P-TITE SCREW 3x10 F/ZN-3C	6 ± 1 kgf·cm
S5	C.B.S-TITE SCREW 3x6 F/ZN-3C	4 ± 0.5 kgf·cm
S6	C.B.S-TITE SCREW 3x6 F/ZN-3C	6 ± 1 kgf·cm
S7	C.B.S-TITE SCREW 3x8 F/ZN-3C	6 ± 1 kgf·cm
S8	C.P SCREW 3x4 F/ZN-3C	4 ± 1 kgf·cm
S9	C.P.F.B-TITE SCREW 2x8 F/ZN-3C	4 ± 1 kgf·cm
S10	C.P.S-TITE (P2) SCREW 3x6 F/ZN-3C	7 ± 1 kgf·cm
S11	C.B.P-TITE SCREW 2.5x8 F/ZN-3C	5 ± 0.5 kgf·cm
S12	C.P SCREW 2.6x3 F/ZN-3C	4 ± 0.5 kgf·cm
S13	C.B.S-TITE SCREW 3x4 F/ZN-3C	2 ± 0.5 kgf·cm
S14	C.B.P-TITE SCREW 2x8 F/ZN	2 ± 0.5 kgf·cm
S15	C.B.P-TITE SCREW 2x8 F/ZN	25 ± 0.5 kgf·cm
S16	C.B.P-TITE SCREW 3x6 F/ZN	4 ± 1 kgf·cm
S17	C.B.P-TITE SCREW 2.5x8 F/ZN	6 ± 1 kgf·cm
S18	C.B.P-TITE SCREW 2.6x5 F/ZN	3 ± 0.5 kgf·cm
S19	C.B.P-TITE SCREW 3x6 F/ZN	3 ± 0.5 kgf·cm



When the CR Unit or the Head FFC is removed from the Main Frame Assy, remove the following parts before removing the Main Frame Assy.

- **FFC Cover Outer**
- **Holder Board**
- **Printhead**

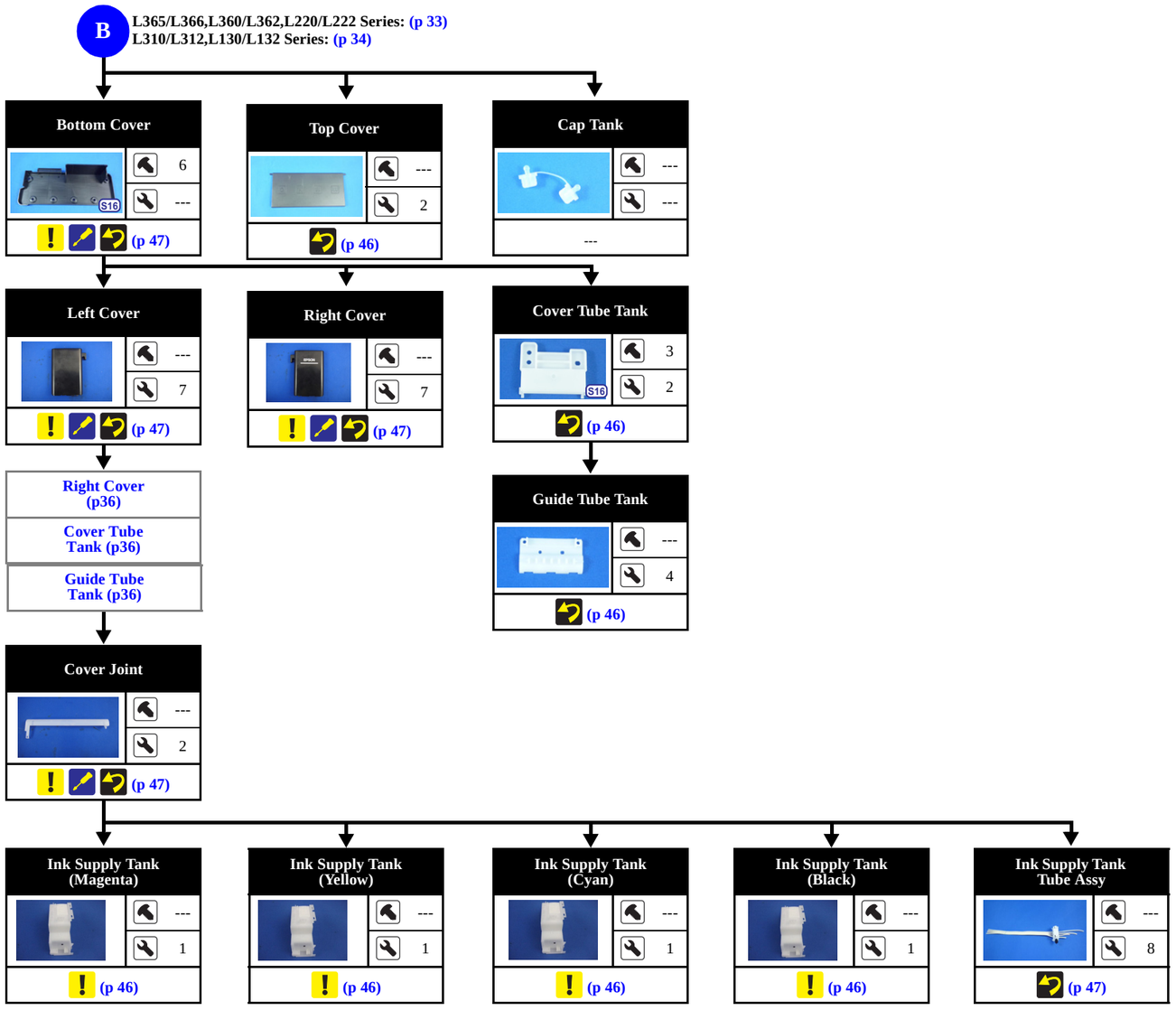
Flowchart 2-3. Disassembly Flowchart (3)

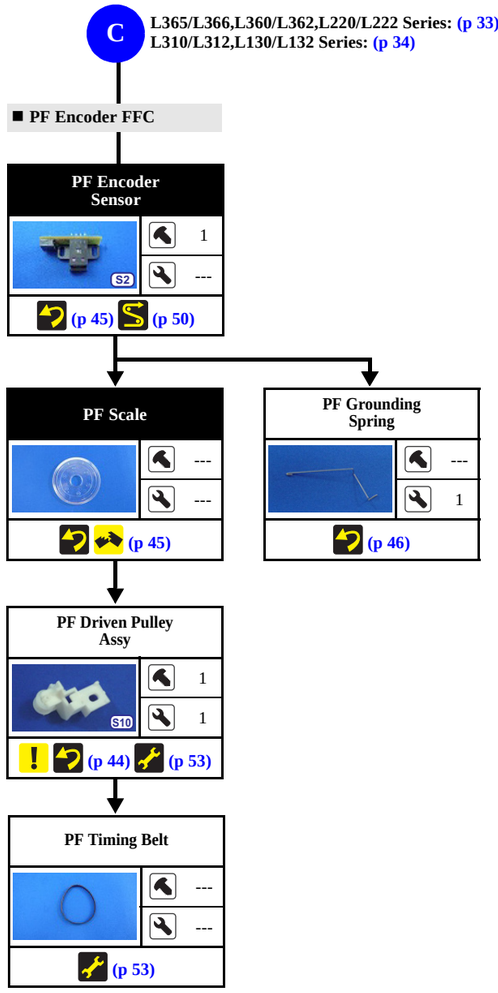
FFC/cable list

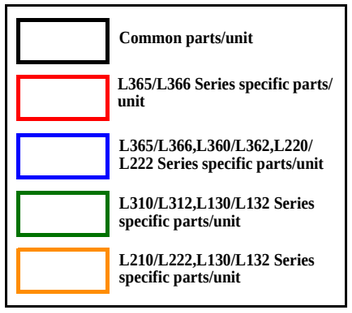
No.	FFC/Cable	No.	FFC/Cable
2	Remove/disconnect the following. ■ Panel FFC (CN2) (double-sided tape)	4	Remove/disconnect the following. ■ Head FFC (CN102) ■ CR Encoder FFC (CN6) ■ PF Motor cable (CN13) ■ PS Unit cable (CN501)
3	Remove/disconnect the following. ■ Panel FFC (CN2) (double-sided tape) ■ PF Motor cable (CN13) ■ PS Unit cable (CN501) ■ CR Motor cable (CN12)	5	Remove/disconnect all FFCs/cables.
		6	Release the CR Motor cable from the hooks of the Main Frame and Frame Base.

Screw type/torque list

Symbol	Screw Type	Torque
S1	C.B.P-TITE SCREW 2.5x8 F/ZN-3C	3 ± 1 kgf·cm
S2	C.B.P-TITE SCREW 2x8 F/ZN-3C	4 ± 1 kgf·cm
S3	C.B.P-TITE SCREW 3x10 F/ZN-3C	5 ± 1 kgf·cm
S4	C.B.P-TITE SCREW 3x10 F/ZN-3C	6 ± 1 kgf·cm
S5	C.B.S-TITE SCREW 3x6 F/ZN-3C	4 ± 0.5 kgf·cm
S6	C.B.S-TITE SCREW 3x6 F/ZN-3C	6 ± 1 kgf·cm
S7	C.B.S-TITE SCREW 3x8 F/ZN-3C	6 ± 1 kgf·cm
S8	C.P SCREW 3x4 F/ZN-3C	4 ± 1 kgf·cm
S9	C.P.F.B-TITE SCREW 2x8 F/ZN-3C	4 ± 1 kgf·cm
S10	C.P.S-TITE (P2) SCREW 3x6 F/ZN-3C	7 ± 1 kgf·cm
S11	C.B.P-TITE SCREW 2.5x8 F/ZN-3C	5 ± 0.5 kgf·cm
S12	C.P SCREW 2.6x3 F/ZN-3C	4 ± 0.5 kgf·cm
S13	C.B.S-TITE SCREW 3x4 F/ZN-3C	2 ± 0.5 kgf·cm
S14	C.B.P-TITE SCREW 2x8 F/ZN	2 ± 0.5 kgf·cm
S15	C.B.P-TITE SCREW 2x8 F/ZN	25 ± 0.5 kgf·cm
S16	C.B.P-TITE SCREW 3x6 F/ZN	4 ± 1 kgf·cm
S17	C.B.P-TITE SCREW 2.5x8 F/ZN	6 ± 1 kgf·cm
S18	C.B.P-TITE SCREW 2.6x5 F/ZN	3 ± 0.5 kgf·cm
S19	C.B.P-TITE SCREW 3x6 F/ZN	3 ± 0.5 kgf·cm



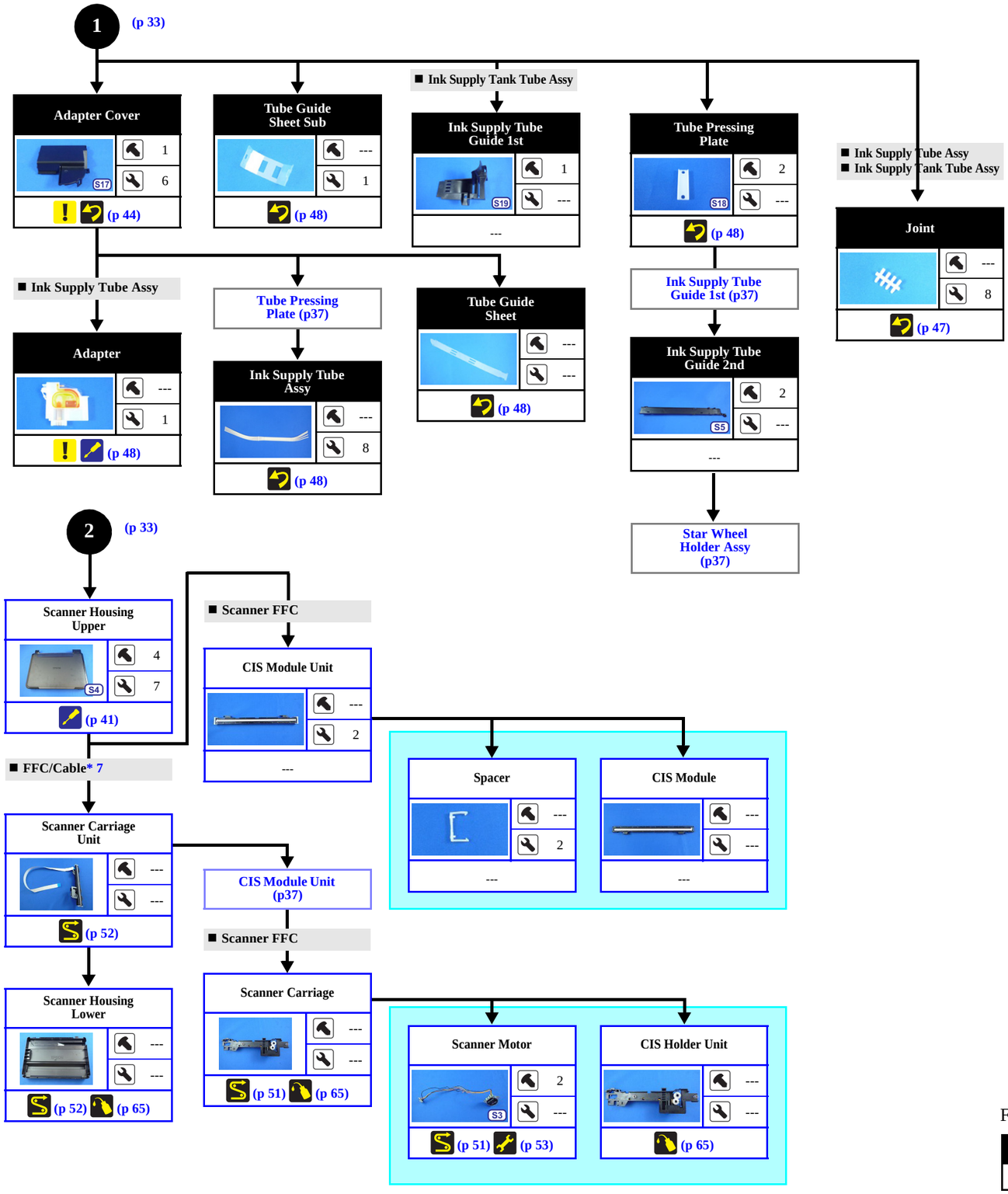




Screw type/torque list

Symbol	Screw Type	Torque
S1	C.B.P-TITE SCREW 2.5x8 F/ZN-3C	3 ± 1 kgf·cm
S2	C.B.P-TITE SCREW 2x8 F/ZN-3C	4 ± 1 kgf·cm
S3	C.B.P-TITE SCREW 3x10 F/ZN-3C	5 ± 1 kgf·cm
S4	C.B.P-TITE SCREW 3x10 F/ZN-3C	6 ± 1 kgf·cm
S5	C.B.S-TITE SCREW 3x6 F/ZN-3C	4 ± 0.5 kgf·cm
S6	C.B.S-TITE SCREW 3x6 F/ZN-3C	6 ± 1 kgf·cm
S7	C.B.S-TITE SCREW 3x8 F/ZN-3C	6 ± 1 kgf·cm
S8	C.P SCREW 3x4 F/ZN-3C	4 ± 1 kgf·cm
S9	C.P.F.B-TITE SCREW 2x8 F/ZN-3C	4 ± 1 kgf·cm
S10	C.P.S-TITE (P2) SCREW 3x6 F/ZN-3C	7 ± 1 kgf·cm
S11	C.B.P-TITE SCREW 2.5x8 F/ZN-3C	5 ± 0.5 kgf·cm
S12	C.P SCREW 2.6x3 F/ZN-3C	4 ± 0.5 kgf·cm
S13	C.B.S-TITE SCREW 3x4 F/ZN-3C	2 ± 0.5 kgf·cm
S14	C.B.P-TITE SCREW 2x8 F/ZN	2 ± 0.5 kgf·cm
S15	C.B.P-TITE SCREW 2x8 F/ZN	25 ± 0.5 kgf·cm
S16	C.B.P-TITE SCREW 3x6 F/ZN	4 ± 1 kgf·cm
S17	C.B.P-TITE SCREW 2.5x8 F/ZN	6 ± 1 kgf·cm
S18	C.B.P-TITE SCREW 2.6x5 F/ZN	3 ± 0.5 kgf·cm
S19	C.B.P-TITE SCREW 3x6 F/ZN	3 ± 0.5 kgf·cm

Flowchart 2-4. Disassembly Flowchart (4)



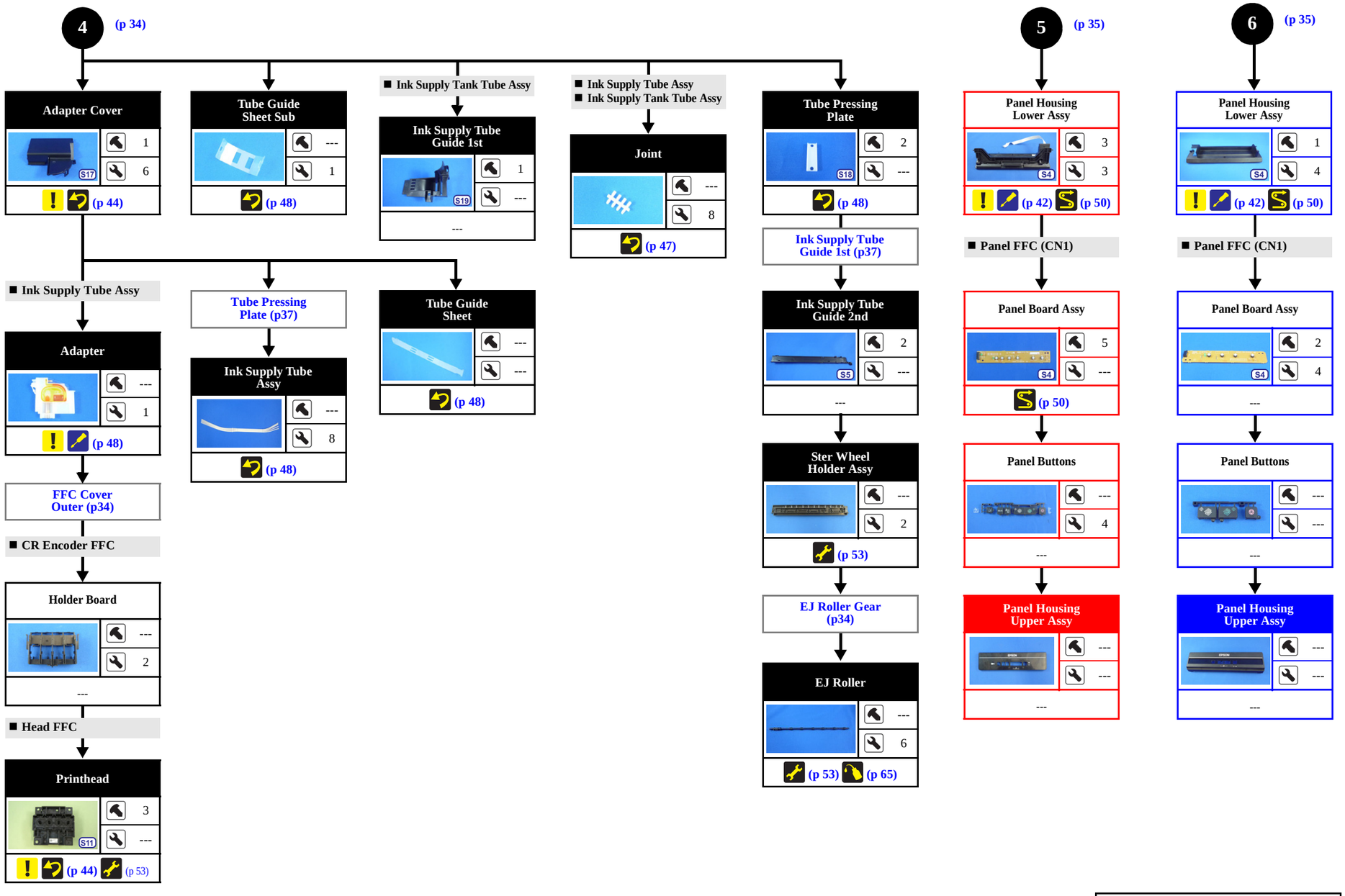
FFC/cable list

No.	FFC/Cable
7	Remove the double-sided tape (x1) and release the Scanner FFC.

Screw type/torque list

Symbol	Screw Type	Torque
S1	C.B.P-TITE SCREW 2.5x8 F/ZN-3C	3 ± 1 kgf·cm
S2	C.B.P-TITE SCREW 2x8 F/ZN-3C	4 ± 1 kgf·cm
S3	C.B.P-TITE SCREW 3x10 F/ZN-3C	5 ± 1 kgf·cm
S4	C.B.P-TITE SCREW 3x10 F/ZN-3C	6 ± 1 kgf·cm
S5	C.B.S-TITE SCREW 3x6 F/ZN-3C	4 ± 0.5 kgf·cm
S6	C.B.S-TITE SCREW 3x6 F/ZN-3C	6 ± 1 kgf·cm
S7	C.B.S-TITE SCREW 3x8 F/ZN-3C	6 ± 1 kgf·cm
S8	C.P SCREW 3x4 F/ZN-3C	4 ± 1 kgf·cm
S9	C.P.F.B-TITE SCREW 2x8 F/ZN-3C	4 ± 1 kgf·cm
S10	C.P.S-TITE (P2) SCREW 3x6 F/ZN-3C	7 ± 1 kgf·cm
S11	C.B.P-TITE SCREW 2.5x8 F/ZN-3C	5 ± 0.5 kgf·cm
S12	C.P SCREW 2.6x3 F/ZN-3C	4 ± 0.5 kgf·cm
S13	C.B.S-TITE SCREW 3x4 F/ZN-3C	2 ± 0.5 kgf·cm
S14	C.B.P-TITE SCREW 2x8 F/ZN	2 ± 0.5 kgf·cm
S15	C.B.P-TITE SCREW 2x8 F/ZN	25 ± 0.5 kgf·cm
S16	C.B.P-TITE SCREW 3x6 F/ZN	4 ± 1 kgf·cm
S17	C.B.P-TITE SCREW 2.5x8 F/ZN	6 ± 1 kgf·cm
S18	C.B.P-TITE SCREW 2.6x5 F/ZN	3 ± 0.5 kgf·cm
S19	C.B.P-TITE SCREW 3x6 F/ZN	3 ± 0.5 kgf·cm

Flowchart 2-5. Disassembly Flowchart (5)



Common parts/unit

L365/L366 Series specific parts/unit

L365/L366,L360/L362,L220/L222 Series specific parts/unit

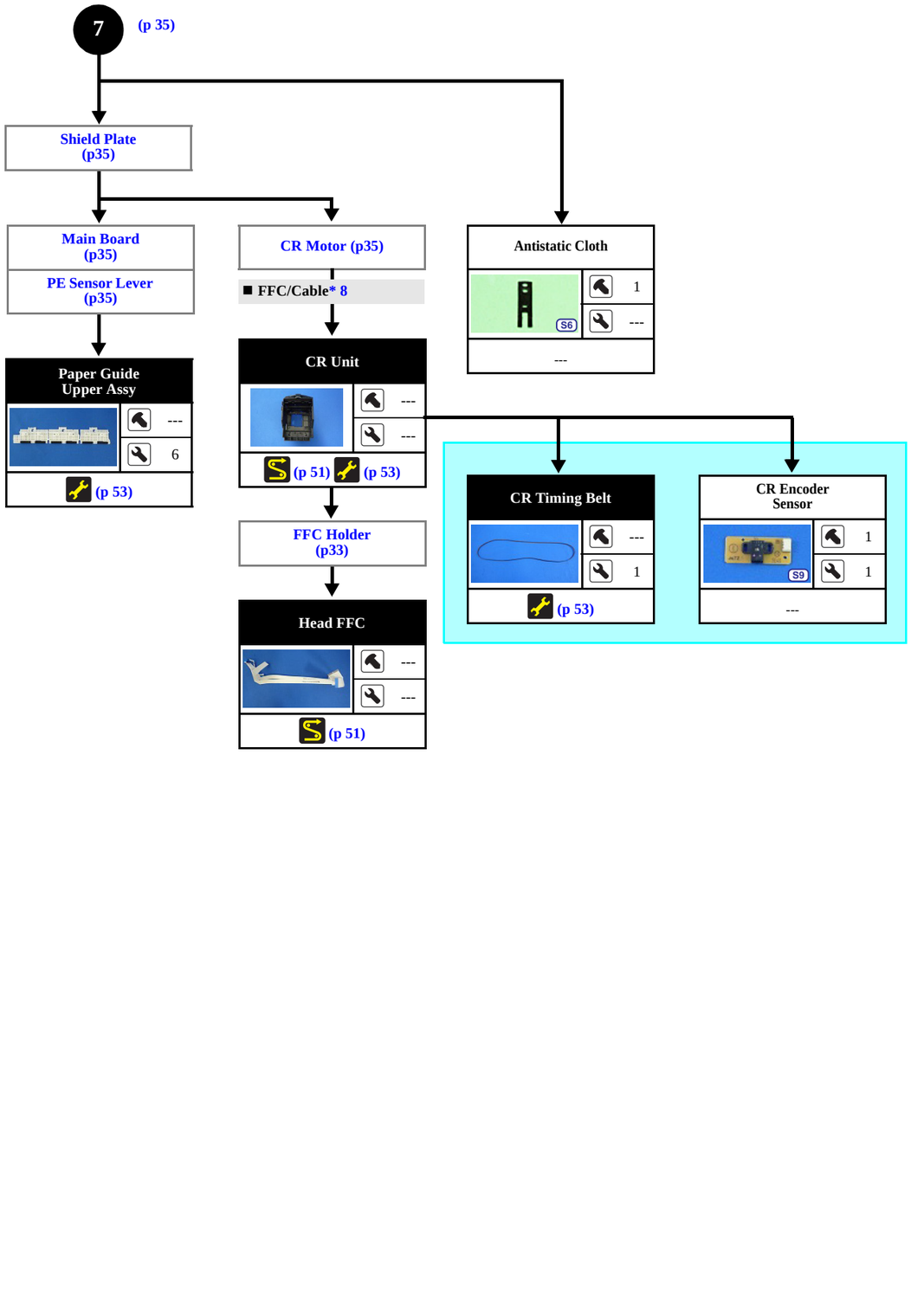
L310/L312,L130/L132 Series specific parts/unit

L210/L222,L130/L132 Series specific parts/unit

Flowchart 2-6. Disassembly Flowchart (6)

Screw type/torque list

Symbol	Screw Type	Torque
S1	C.B.P-TITE SCREW 2.5x8 F/ZN-3C	3 ± 1 kgf·cm
S2	C.B.P-TITE SCREW 2x8 F/ZN-3C	4 ± 1 kgf·cm
S3	C.B.P-TITE SCREW 3x10 F/ZN-3C	5 ± 1 kgf·cm
S4	C.B.P-TITE SCREW 3x10 F/ZN-3C	6 ± 1 kgf·cm
S5	C.B.S-TITE SCREW 3x6 F/ZN-3C	4 ± 0.5 kgf·cm
S6	C.B.S-TITE SCREW 3x6 F/ZN-3C	6 ± 1 kgf·cm
S7	C.B.S-TITE SCREW 3x8 F/ZN-3C	6 ± 1 kgf·cm
S8	C.P SCREW 3x4 F/ZN-3C	4 ± 1 kgf·cm
S9	C.P.F.B-TITE SCREW 2x8 F/ZN-3C	4 ± 1 kgf·cm
S10	C.P.S-TITE (P2) SCREW 3x6 F/ZN-3C	7 ± 1 kgf·cm
S11	C.B.P-TITE SCREW 2.5x8 F/ZN-3C	5 ± 0.5 kgf·cm
S12	C.P SCREW 2.6x3 F/ZN-3C	4 ± 0.5 kgf·cm
S13	C.B.S-TITE SCREW 3x4 F/ZN-3C	2 ± 0.5 kgf·cm
S14	C.B.P-TITE SCREW 2x8 F/ZN	2 ± 0.5 kgf·cm
S15	C.B.P-TITE SCREW 2x8 F/ZN	25 ± 0.5 kgf·cm
S16	C.B.P-TITE SCREW 3x6 F/ZN	4 ± 1 kgf·cm
S17	C.B.P-TITE SCREW 2.5x8 F/ZN	6 ± 1 kgf·cm
S18	C.B.P-TITE SCREW 2.6x5 F/ZN	3 ± 0.5 kgf·cm
S19	C.B.P-TITE SCREW 3x6 F/ZN	3 ± 0.5 kgf·cm



Flowchart 2-7. Disassembly Flowchart (7)

Common parts/unit

L365/L366 Series specific parts/unit

L365/L366,L360/L362,L220/L222 Series specific parts/unit

L310/L312,L130/L132 Series specific parts/unit

L210/L222,L130/L132 Series specific parts/unit

FFC/cable list

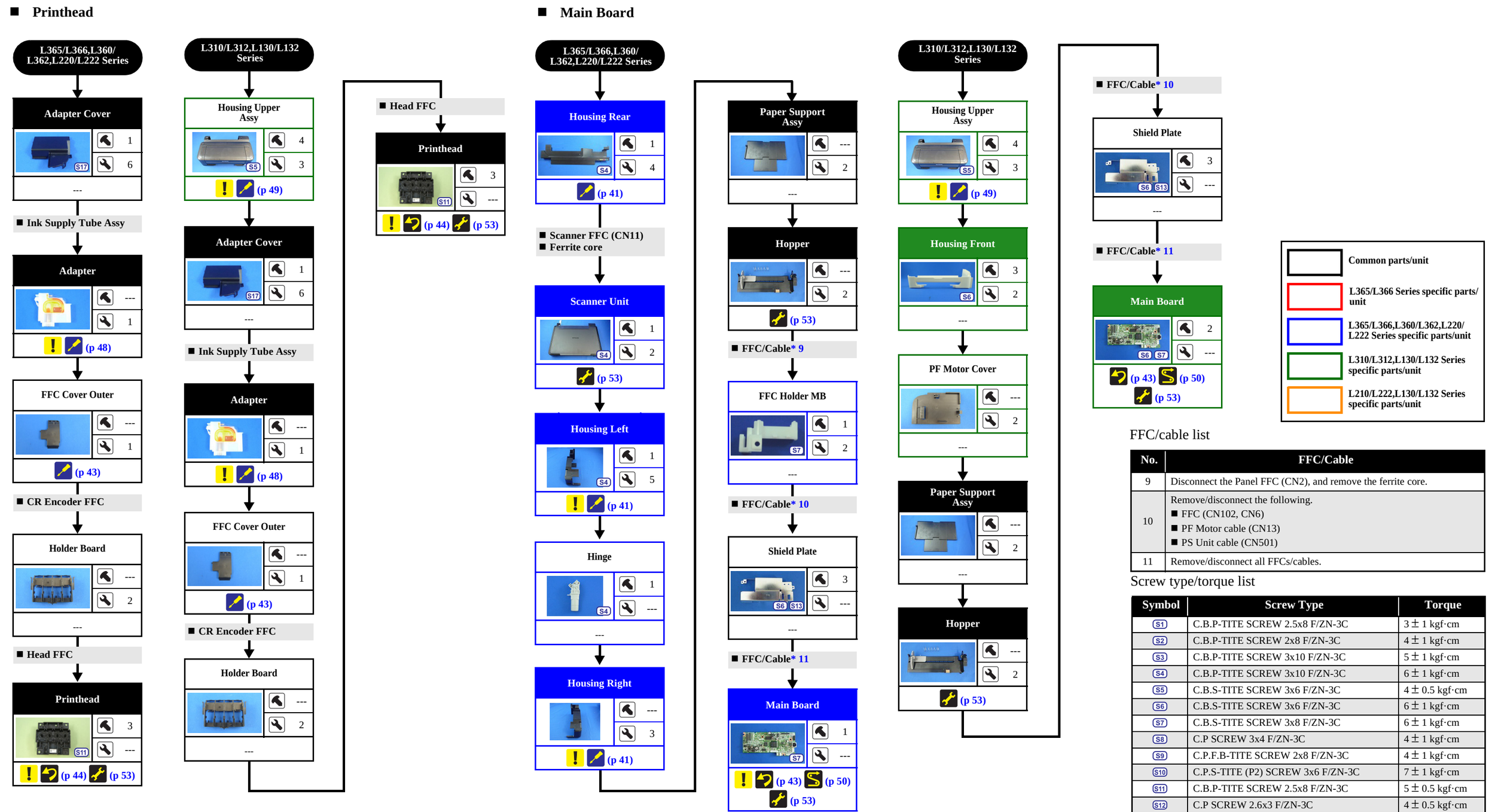
No.	FFC/Cable
8	■ Disconnect the CR Encoder FFC. ■ Pull out the Head FFC from the hole of the CR Unit.

Screw type/torque list

Symbol	Screw Type	Torque
S1	C.B.P-TITE SCREW 2.5x8 F/ZN-3C	3 ± 1 kgf·cm
S2	C.B.P-TITE SCREW 2x8 F/ZN-3C	4 ± 1 kgf·cm
S3	C.B.P-TITE SCREW 3x10 F/ZN-3C	5 ± 1 kgf·cm
S4	C.B.P-TITE SCREW 3x10 F/ZN-3C	6 ± 1 kgf·cm
S5	C.B.S-TITE SCREW 3x6 F/ZN-3C	4 ± 0.5 kgf·cm
S6	C.B.S-TITE SCREW 3x6 F/ZN-3C	6 ± 1 kgf·cm
S7	C.B.S-TITE SCREW 3x8 F/ZN-3C	6 ± 1 kgf·cm
S8	C.P SCREW 3x4 F/ZN-3C	4 ± 1 kgf·cm
S9	C.P.F.B-TITE SCREW 2x8 F/ZN-3C	4 ± 1 kgf·cm
S10	C.P.S-TITE (P2) SCREW 3x6 F/ZN-3C	7 ± 1 kgf·cm
S11	C.B.P-TITE SCREW 2.5x8 F/ZN-3C	5 ± 0.5 kgf·cm
S12	C.P SCREW 2.6x3 F/ZN-3C	4 ± 0.5 kgf·cm
S13	C.B.S-TITE SCREW 3x4 F/ZN-3C	2 ± 0.5 kgf·cm
S14	C.B.P-TITE SCREW 2x8 F/ZN	2 ± 0.5 kgf·cm
S15	C.B.P-TITE SCREW 2x8 F/ZN	25 ± 0.5 kgf·cm
S16	C.B.P-TITE SCREW 3x6 F/ZN	4 ± 1 kgf·cm
S17	C.B.P-TITE SCREW 2.5x8 F/ZN	6 ± 1 kgf·cm
S18	C.B.P-TITE SCREW 2.6x5 F/ZN	3 ± 0.5 kgf·cm
S19	C.B.P-TITE SCREW 3x6 F/ZN	3 ± 0.5 kgf·cm

Confidential

2.2.2 Disassembly Flowchart (Printhead/Main Board)



The Printhead can be replaced without removing the Scanner Unit. However, the working space for replacement is narrow and dark. Therefore, if you find it difficult to work, remove the Scanner Unit first before replacement.

Flowchart 2-8. Disassembly Flowchart (Printhead/Main Board)

FFC/cable list

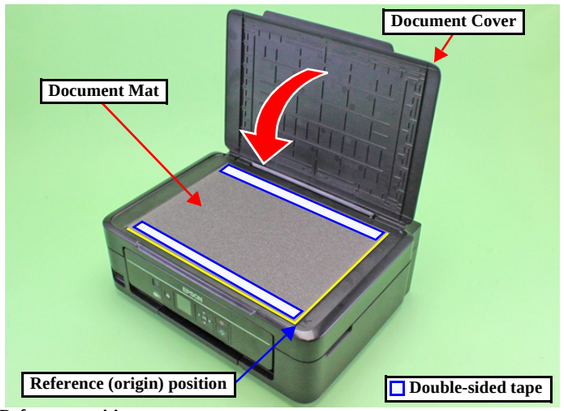
No.	FFC/Cable
9	Disconnect the Panel FFC (CN2), and remove the ferrite core.
10	Remove/disconnect the following. ■ FFC (CN102, CN6) ■ PF Motor cable (CN13) ■ PS Unit cable (CN501)
11	Remove/disconnect all FFCs/cables.

Screw type/torque list

Symbol	Screw Type	Torque
S1	C.B.P-TITE SCREW 2.5x8 F/ZN-3C	3 ± 1 kgf·cm
S2	C.B.P-TITE SCREW 2x8 F/ZN-3C	4 ± 1 kgf·cm
S3	C.B.P-TITE SCREW 3x10 F/ZN-3C	5 ± 1 kgf·cm
S4	C.B.P-TITE SCREW 3x10 F/ZN-3C	6 ± 1 kgf·cm
S5	C.B.S-TITE SCREW 3x6 F/ZN-3C	4 ± 0.5 kgf·cm
S6	C.B.S-TITE SCREW 3x6 F/ZN-3C	6 ± 1 kgf·cm
S7	C.B.S-TITE SCREW 3x8 F/ZN-3C	6 ± 1 kgf·cm
S8	C.P SCREW 3x4 F/ZN-3C	4 ± 1 kgf·cm
S9	C.P.F.B-TITE SCREW 2x8 F/ZN-3C	4 ± 1 kgf·cm
S10	C.P.S-TITE (P2) SCREW 3x6 F/ZN-3C	7 ± 1 kgf·cm
S11	C.B.P-TITE SCREW 2.5x8 F/ZN-3C	5 ± 0.5 kgf·cm
S12	C.P SCREW 2.6x3 F/ZN-3C	4 ± 0.5 kgf·cm
S13	C.B.S-TITE SCREW 3x4 F/ZN-3C	2 ± 0.5 kgf·cm
S14	C.B.P-TITE SCREW 2x8 F/ZN	2 ± 0.5 kgf·cm
S15	C.B.P-TITE SCREW 2x8 F/ZN	25 ± 0.5 kgf·cm
S16	C.B.P-TITE SCREW 3x6 F/ZN	4 ± 1 kgf·cm
S17	C.B.P-TITE SCREW 2.5x8 F/ZN	6 ± 1 kgf·cm
S18	C.B.P-TITE SCREW 2.6x5 F/ZN	3 ± 0.5 kgf·cm
S19	C.B.P-TITE SCREW 3x6 F/ZN	3 ± 0.5 kgf·cm

2.3 Detailed Disassembly/Reassembly Procedure for each Part/Unit

Document Mat (L365/L366,L360/L362,L220/L222 Series)

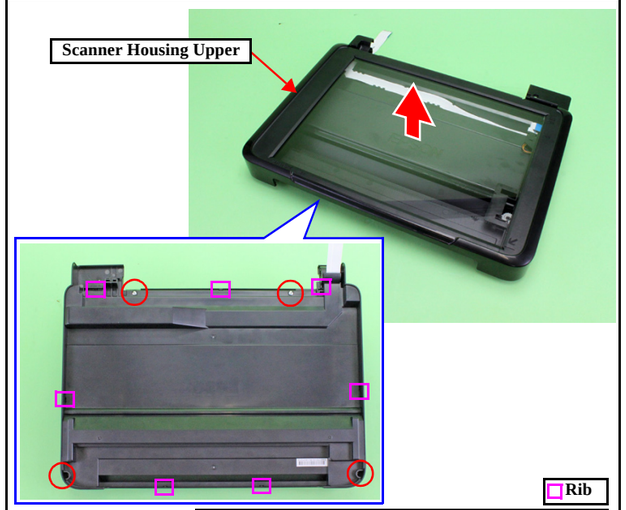


Reference position:
Align the Document Mat with the front right corner of the document glass.
Make sure the gap in yellow above must be less than 1 mm.

When attaching the Document Mat to the Document Cover, follow the procedure below.

1. Attach double-sided tape on the two long sides of the Document Mat.
2. Place the mat on the document glass with double-sided tape attachment side upward while aligning it with the reference position of the document glass shown above.
3. Close the Document Cover and press the cover to stick the Document Mat to the Document Cover.

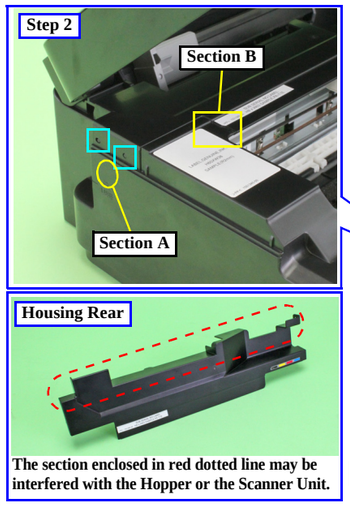
Scanner Housing Upper (L365/L366,L360/L362,L220/L222 Series)

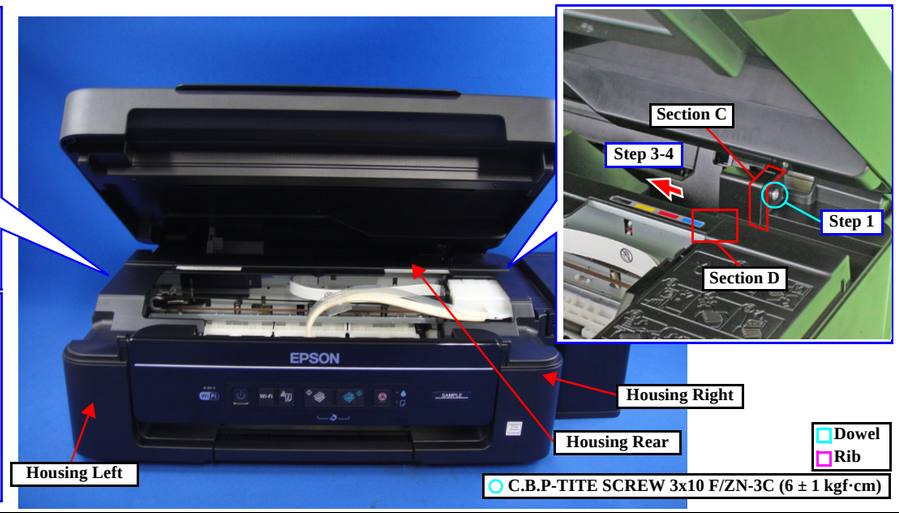


When removing the Scanner Housing Upper from the Scanner Housing Lower Assy, follow the procedure below.

1. Remove the screws (x4) on the bottom of the Scanner Unit.
2. Release the ribs (x7) of the Scanner Housing Upper, and remove the Scanner Housing Upper in the direction of the arrow with the document glass upward.

Housing Rear (L365/L366,L360/L362,L220/L222 Series)

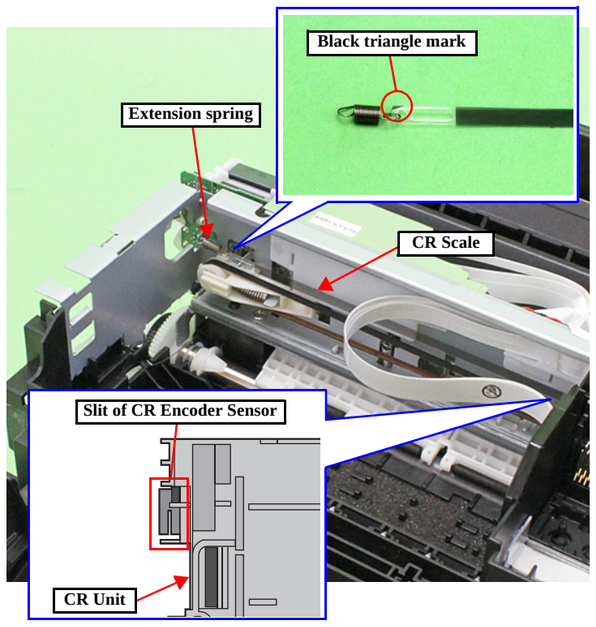

Step 2
Section B
Section A
Housing Rear
The section enclosed in red dotted line may be interfered with the Hopper or the Scanner Unit.



When removing the Housing Rear, follow the procedure below.

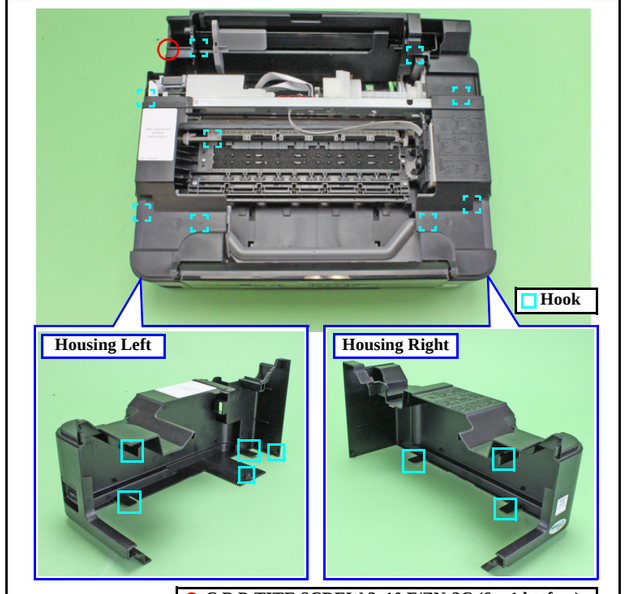
1. Remove the screw (x1) of the Housing Rear.
2. Press the section A on the Housing Left and release the dowels (x2) of the Housing Left from the Housing Rear, and lift the rear side of the Housing Rear slightly to release the section B from the Housing Left.
3. Pull and turn the section C of the Housing Rear slightly to the front to release it from the gap between the Housing Right and Frame Base.
4. Slide the Housing Rear in the direction of the arrow to release the section D, and remove the Housing Rear while avoiding the Hopper and Scanner Unit.

CR Scale



- Attach the CR Scale to the hook on the left of the Main Frame with the black triangle mark upward.
- Make sure to put the CR Scale through the slit of the CR Encoder Sensor.

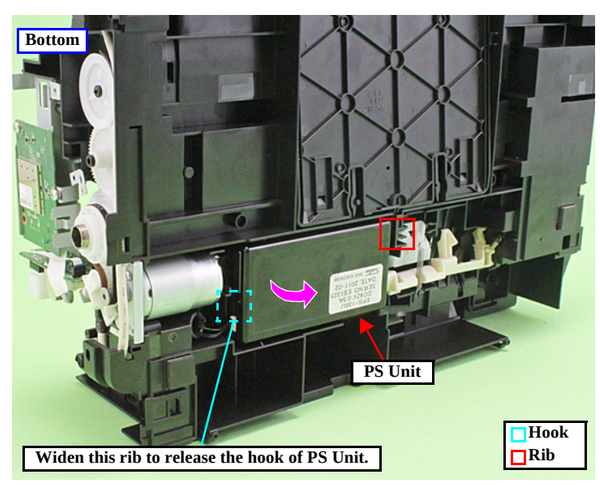
Housing Left/Housing Right (L365/L366,L360/L362,L220/L222 Series)



When releasing the hooks (x7) of the Housing Left/Housing Right, be careful not to damage the hooks (x7).

Release the hooks shown above when removing the Housing Left/Housing Right.

PS Unit

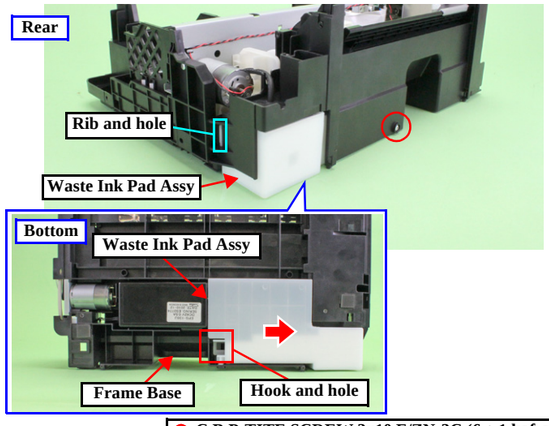


Be careful not to damage the rib of the Frame Base when widen the rib to release the hook of the PS Unit.

When removing the PS Unit, follow the procedure below.

1. Using a precision screwdriver or the like, widen the rib of the Frame Base to release the hook of the PS Unit.
2. Remove the PS Unit from the Frame Base in the direction of the arrow while releasing the rib of the PS Unit.
3. Disconnect the PS Unit cable from the connector on the PS Unit and remove the PS Unit.

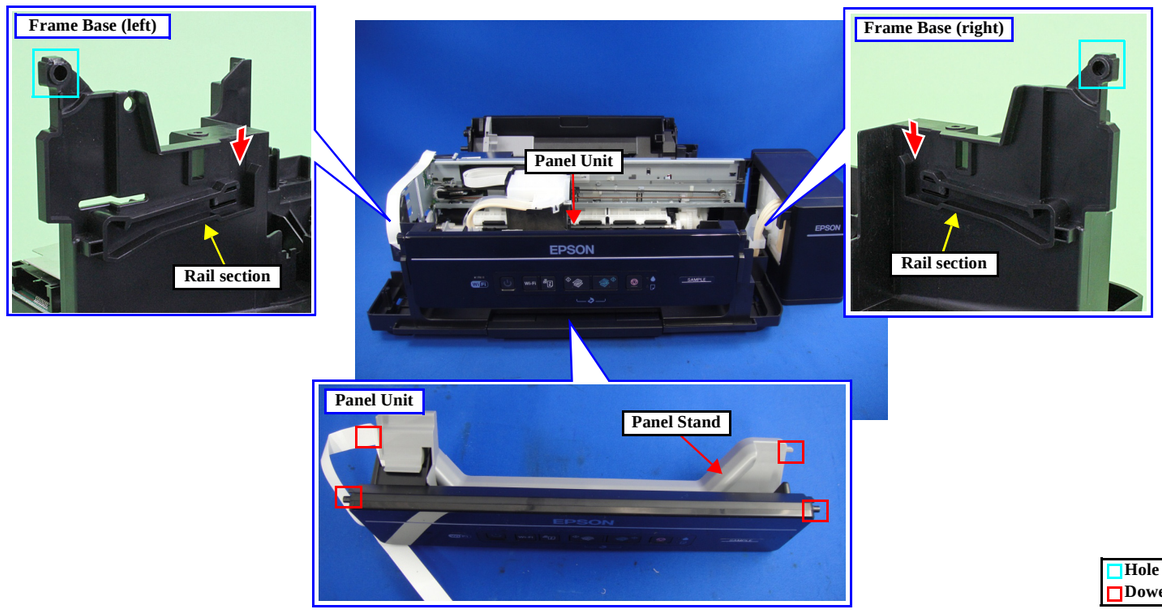
Waste Ink Pad Assy



When installing the Waste Ink Pad Assy, follow the procedure below.

1. Place the Waste Ink Pad Assy under the Frame Base.
2. Slide the Waste Ink Pad Assy in the direction of the arrow to align the hole of the Waste Ink Pad Assy with the hook of the Frame Base.
3. Confirm the following first, and then tighten the screw to secure the Waste Ink Pad Assy.
   - The rib of the Waste Ink Pad Assy is correctly inserted into the hole of the Frame Base.
   - The Waste Ink Pad Assy is secured firmly with the hook of the Frame Base.

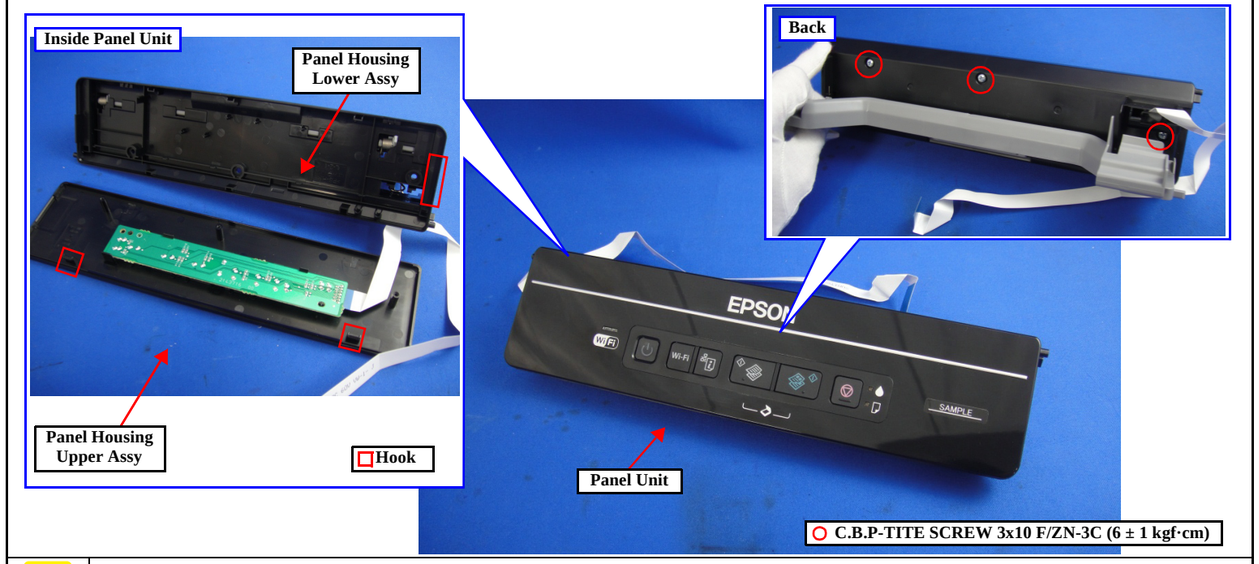
Panel Unit (L365/L366 Series)



When installing the Panel Unit, follow the procedure below.

1. Route the Panel FFC and grounding wire through the holes of the Frame Base. (p 50)
2. Insert the dowels (x2) of the Panel Stand into the grooves on both sides of the Frame Base from the sections indicated in the arrows shown above.
3. Insert the dowels (x2) of the Panel Unit into the holes (x2) of the Frame Base, and secure the Panel Unit to the Frame Base.

Panel Housing Lower Assy (L365/L366 Series)

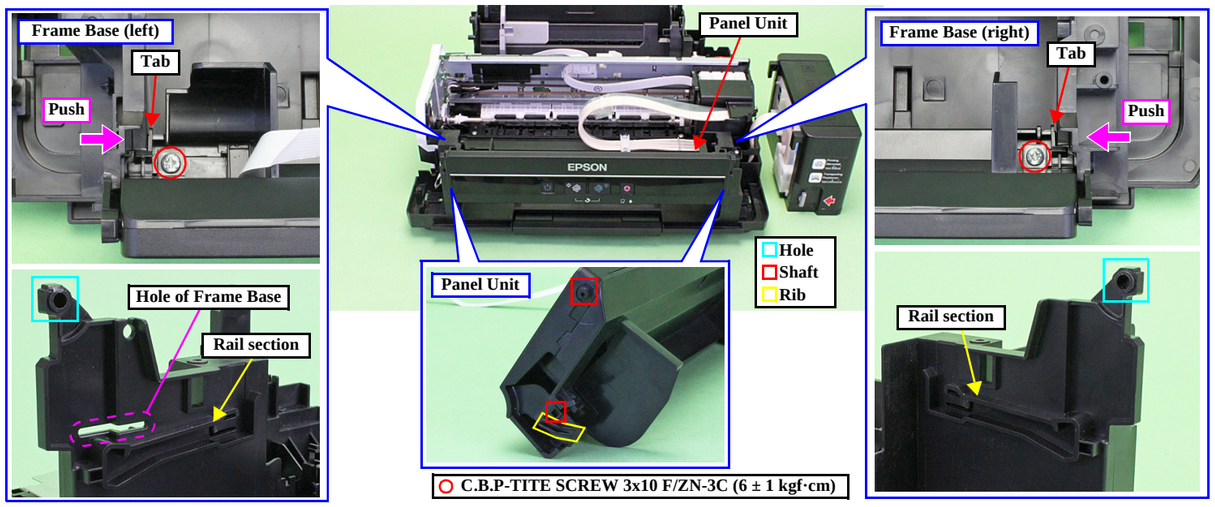


Be careful not to damage the hooks (x2) of the Panel Housing Upper Assy when releasing them.

When removing the Panel Housing Lower Assy, follow the procedure below.

1. Remove the screws (x3) on the back of the Panel Unit.
2. Widen the upper side of the Panel Unit slightly to release the hook of the Panel Housing Lower Assy.
3. Release the hooks (x2) of the Panel Housing Upper Assy one by one, and remove the Panel Housing Lower Assy.

Panel Unit (L360/L362,L220/L222 Series)

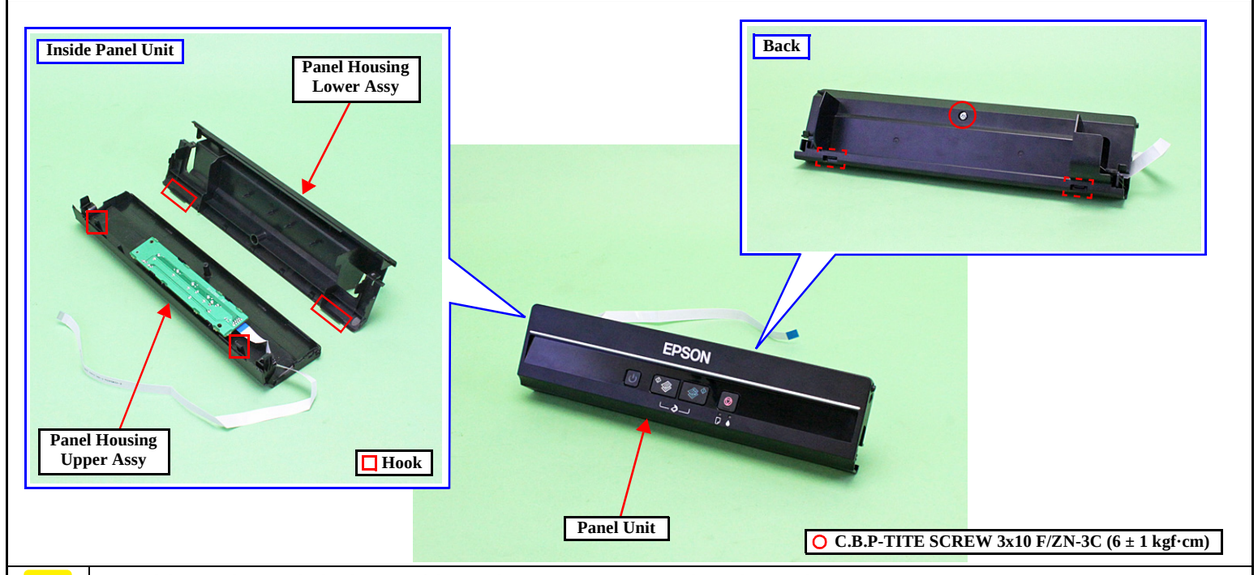


When removing the Panel Unit, follow the procedure below.

1. Remove the two screws that secure the Panel Unit.
2. Pull out the shaft on the both ends of the Panel Unit from the holes of the Frame Base.
3. While pressing the right and left tabs on the rear of the Panel Unit inward, disengage the two dowels and two ribs of the Panel Unit from the rail of the Frame Base.
4. Pull out the Panel FFC through the hole of the Frame Base, and remove the Panel Unit.

Tighten the screws in the order indicated in the figure above.

Panel Housing Lower Assy (L360/L362,L220/L222 Series)

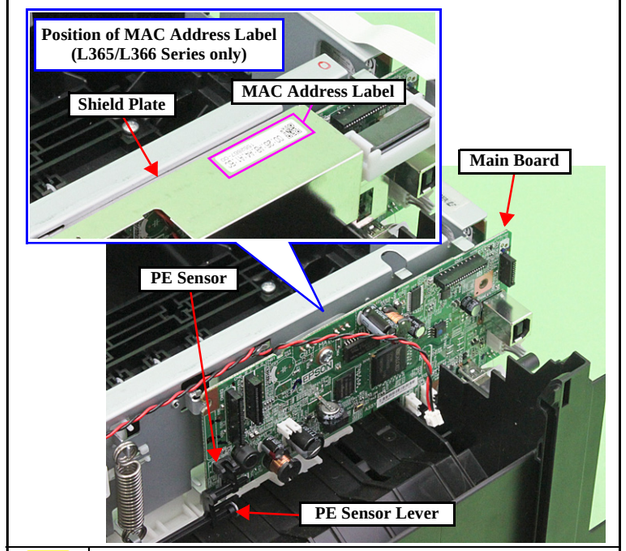


Be careful not to damage the hooks (x2) of the Panel Housing Lower Assy when releasing them.

When removing the Panel Housing Lower Assy, follow the procedure below.

1. Remove the screws (x1) on the back of the Panel Unit.
2. Disengage the two hooks of the Panel Housing Upper Assy one by one.
3. Disengage the two hooks of the Panel Housing Lower Assy, and remove the assy.

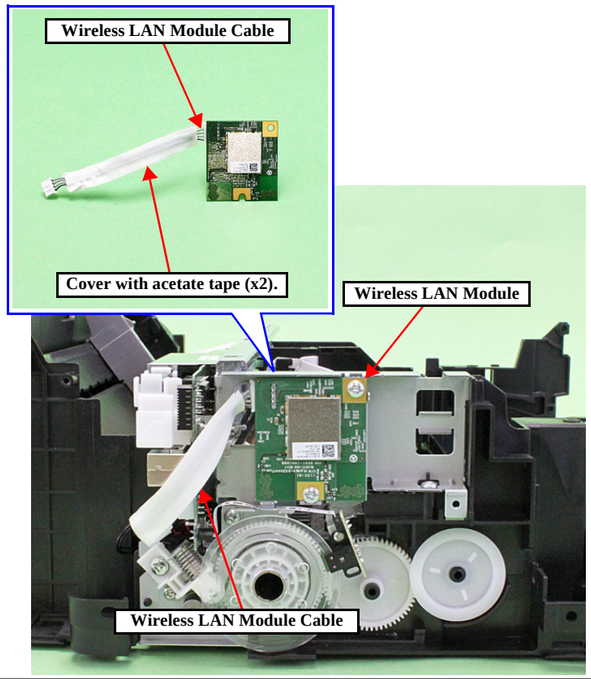
Main Board



Do not damage or contaminate the MAC Address Label. (L365/L366 Series only)

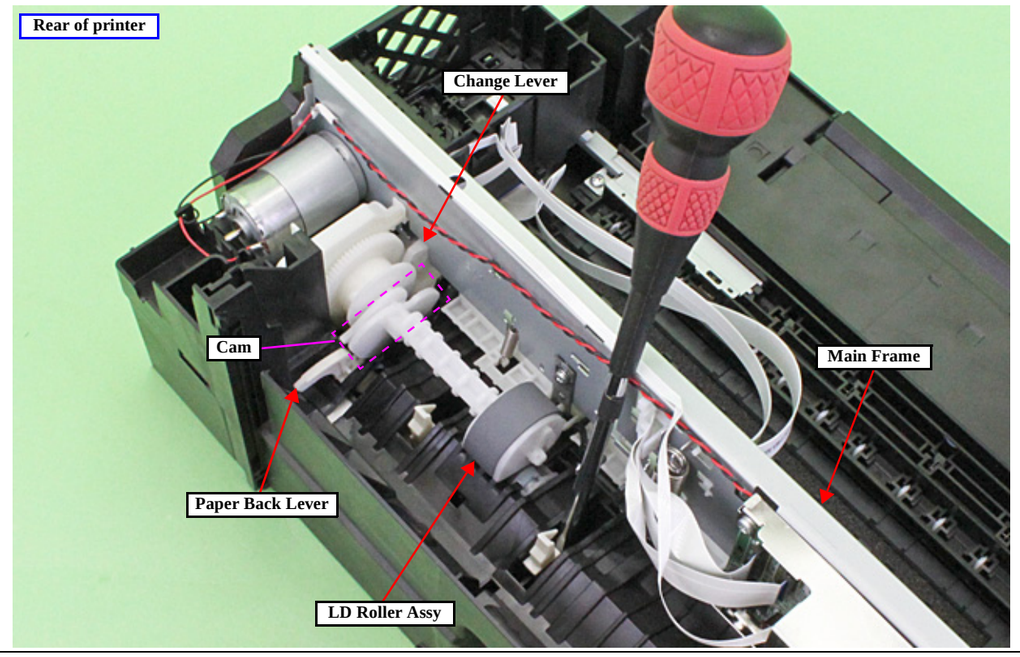
- Install the Main Board with the PE Sensor Lever to the rear. After installing the Main Board, make sure the lever part of the PE Sensor Lever is aligned with the slit of the PE Sensor.
- Attach the MAC Address Label to the Shield Plate on the position shown above.

Wireless LAN Module (L365/L366 Series)



Attach two pieces of acetate tape on the Wireless LAN Module cable to cover the cable to protect it as shown above.

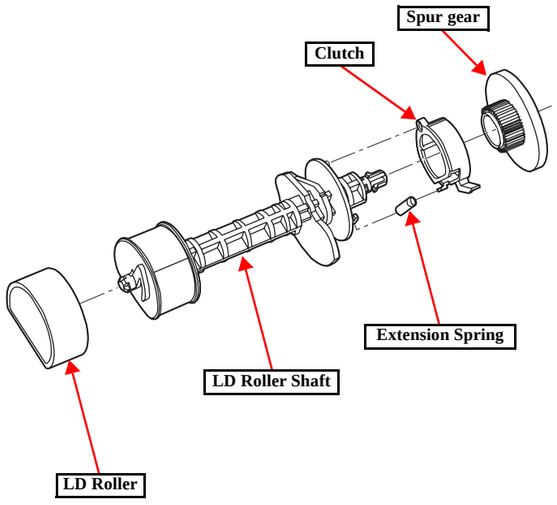
LD Roller Assy (1)



Install the LD Roller Assy with the following condition in order to avoid the Change Lever and Paper Back Lever.

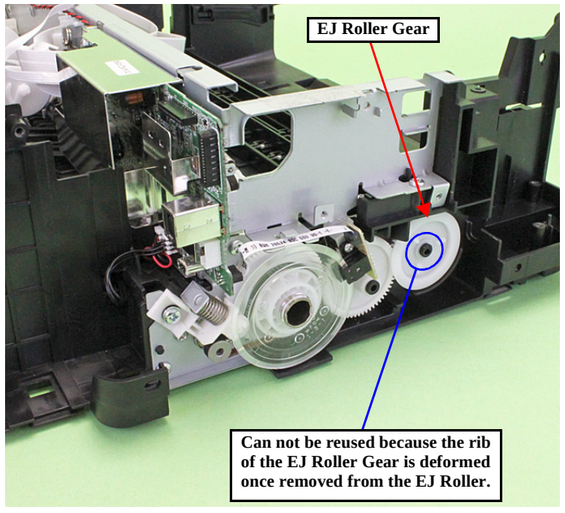
- Using a screw driver or the like, hold the Paper Back Lever to the rear as shown above not to let it touch the LD Roller Assy.
- Push the Change Lever to the front to keep it in the hole of the Main Frame.

LD Roller Assy (2)



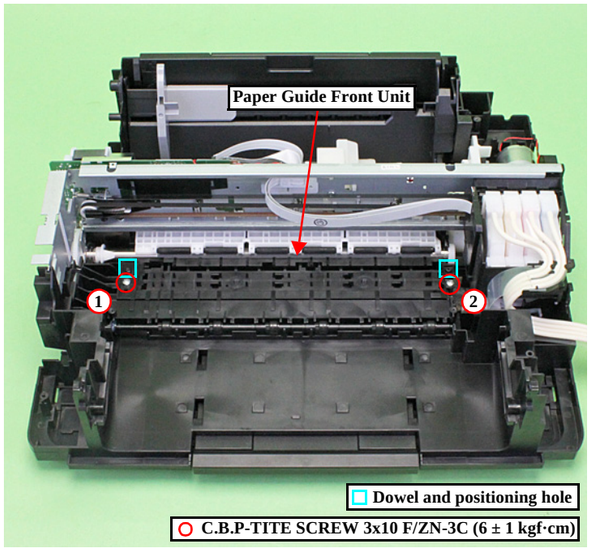
If each part shown above comes off when removing the LD Roller Assy, attach them back in place as shown in the figure above.

EJ Roller Gear



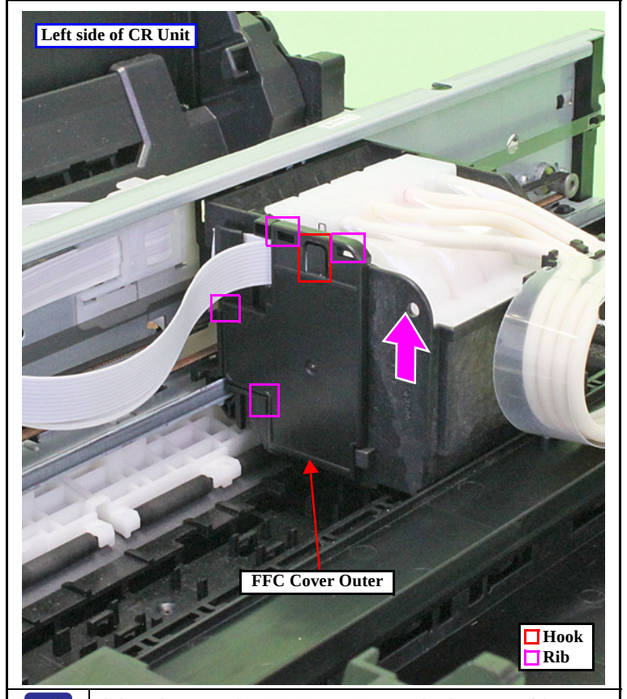
The rib on the contact point of the EJ Roller Gear with the EJ Roller is deformed when removing the EJ Roller Gear. Therefore, make sure to replace it with a new one when removing it in order to maintain the paper feed accuracy.

Paper Guide Front Unit



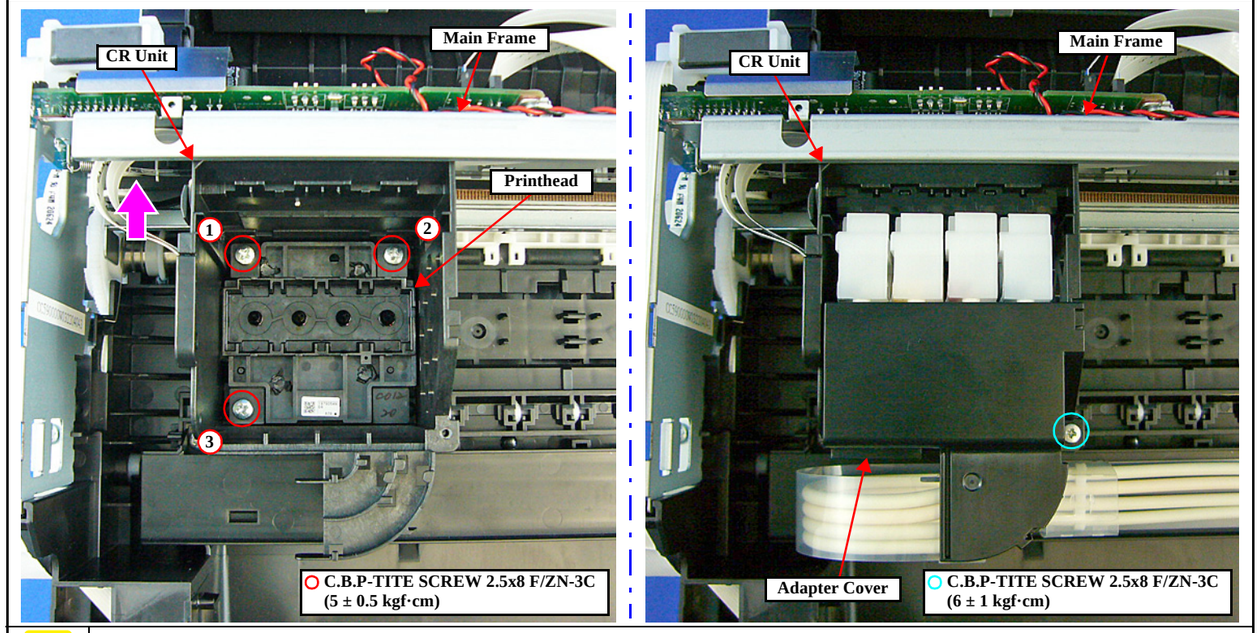
- When installing the Paper Guide Front Unit, align the positioning holes (x2) of the Paper Guide Front Unit with the dowels (x2) of the Frame Base.
- Tighten the screws in the order indicated in the figure above.

FFC Cover Outer



Slide and remove the FFC Cover Outer in the direction of the arrow while releasing the hook.

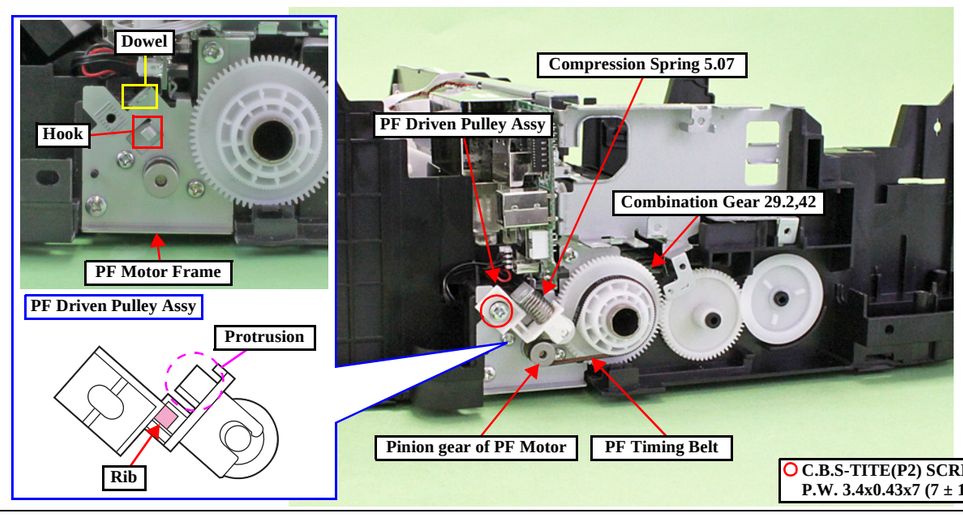
Printhead/Adapter Cover



When removing/replacing the Printhead or the Adapter Cover, not to apply excessive downward force when tightening the screws. Otherwise, the Main Frame may be deformed by applying force perpendicularly when tightening the screws and it may affect print quality.

Tighten the screws of the Printhead in the order indicated in the figure above while pressing the Printhead in the direction of the arrow.

PF Driven Pulley Assy / PF Timing Belt

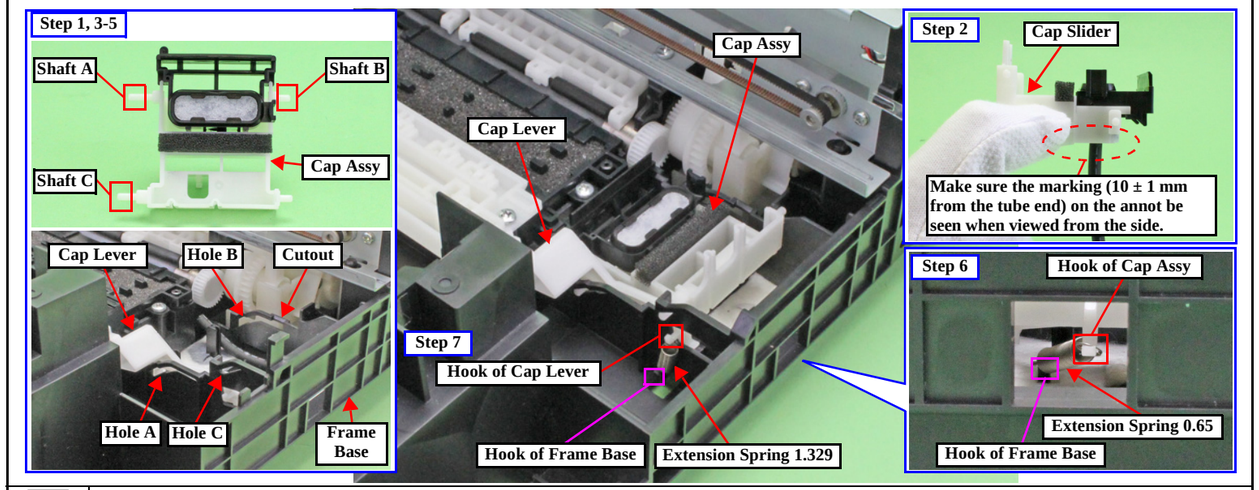


Do not hold the PF Driven Pulley Assy when securing it with the screw in order to prevent applying improper tension to the PF Timing Belt.

When installing the PF Driven Pulley Assy, follow the procedure below.

1. Align the rib of the PF Driven Pulley Assy with the hook of the PF Motor Frame, and install the PF Driven Pulley Assy.
2. Attach the Compression Spring 5.07 to the protrusion of the PF Driven Pulley Assy and the dowel of the PF Motor Frame.
3. Attach the PF Timing Belt in the order of the pinion gear of the PF Motor, PF Driven Pulley and Combination Gear 29.2,42.
4. Rotate the Combination Gear 29.2,42 clockwise three times to confirm the PF Timing Belt is correctly attached, and then secure the PF Driven Pulley Assy with the screw and washer to the PF Motor Frame.

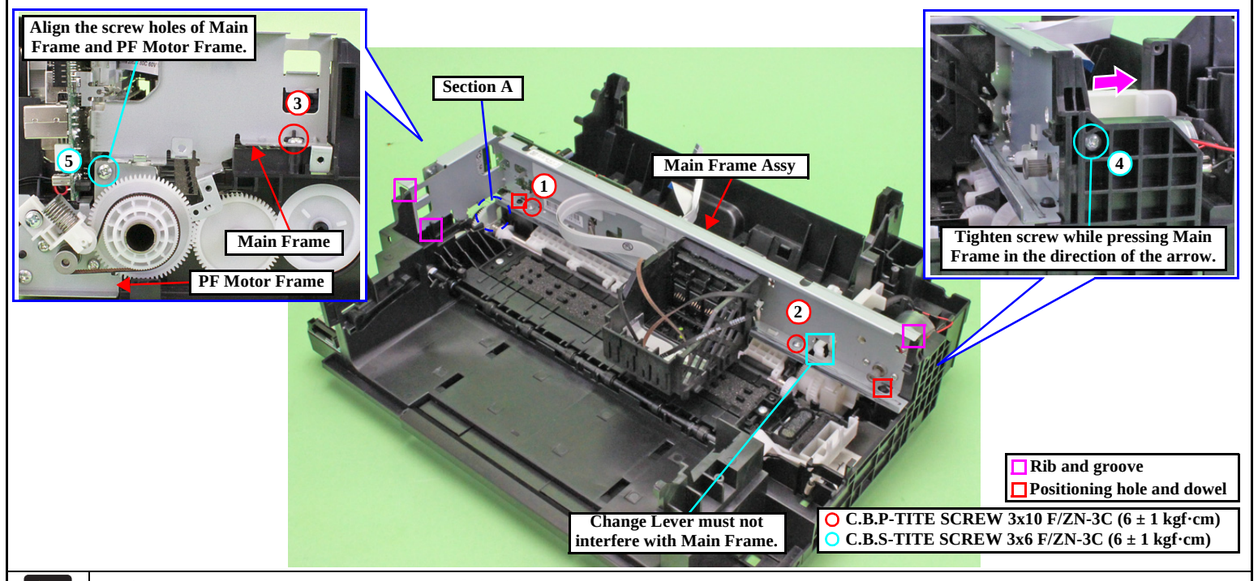
Cap Lever/Cap Assy



When installing the Cap Lever/Cap Assy, follow the procedure below.

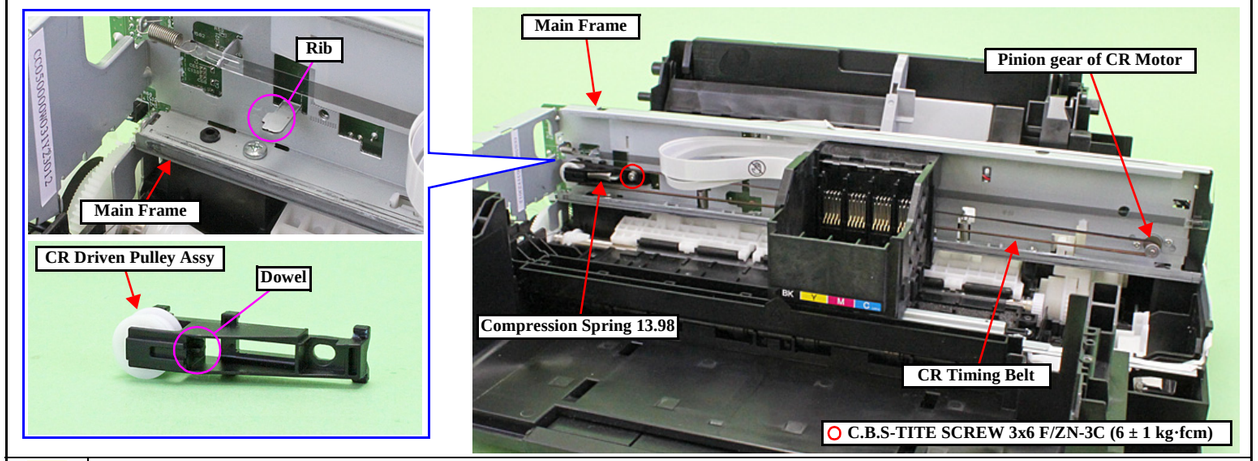
1. Attach the Cap Lever to the Frame Base, and attach one end of the Extension Spring 0.65 to the hook of the Frame Base.
2. Connect the tube of the Pump Unit to the joint on the bottom of the Cap Assy. Then, viewing from the side, confirm the marking (10 ± 1 mm from the tube end) on the tube is covered by the Cap Slider.
3. Insert the shaft A of the Cap Assy through the hole of the Cap Lever to the hole A of the Frame Base.
4. Insert the shaft B of the Cap Assy through the cutout of the Frame Base and to the hole B of the Frame Base.
5. Insert the shaft C of the Cap Assy to the hole C of the Frame Base.
6. Using a “spring hook jig” (p 17), attach the other end of the Extension Spring 0.65 to the hook of the Cap Assy.
7. Attach the Extension Spring 1.329 to the hooks of the Cap Lever and Frame Base.

Main Frame Assy


Align the screw holes of Main Frame and PF Motor Frame.
3
5
Main Frame
PF Motor Frame
Section A
Main Frame Assy
1
2
Change Lever must not interfere with Main Frame.
Tighten screw while pressing Main Frame in the direction of the arrow.
4
Rib and groove
Positioning hole and dowel
C.B.P-TITE SCREW 3x10 F/ZN-3C (6 ± 1 kgf·cm)
C.B.S-TITE SCREW 3x6 F/ZN-3C (6 ± 1 kgf·cm)

- Before installing the Main Frame Assy, shift the Change Lever back to the rear.
- When installing the Main Frame Assy, make sure of the following.
  - The Change Lever must not interfere with the Main Frame.
  - The above shown ribs and grooves, positioning holes and dowels are correctly aligned.
  - The section A of the Main Frame Assy is not deformed.
- Tighten the screws in the order indicated in the figure above.

CR Driven Pulley Assy / CR Timing Belt (L210/L222,L130/L132 Series)

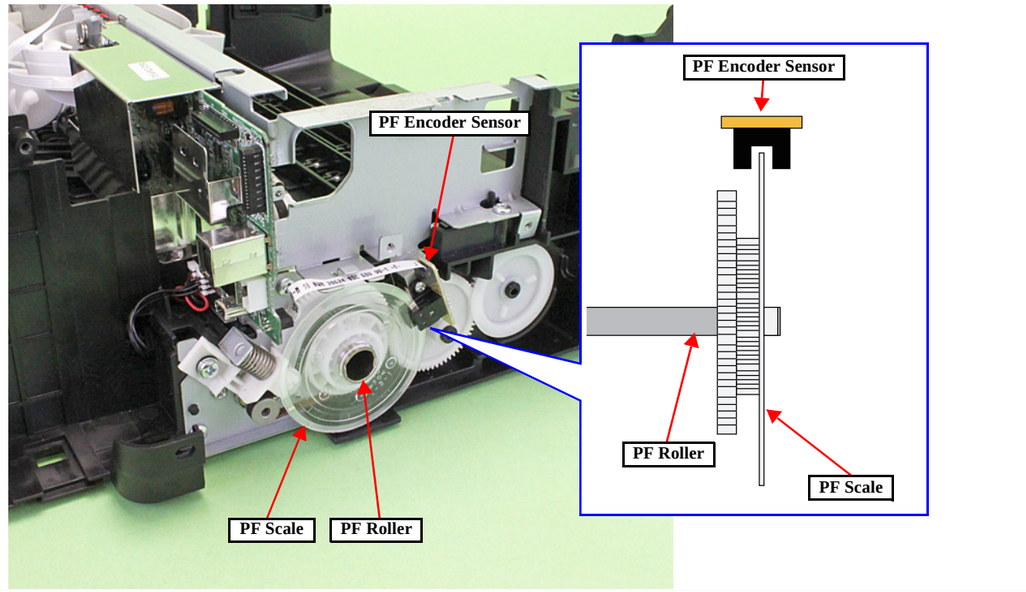


If the CR Timing Belt has to be replaced, it is necessary to extend the new CR Timing Belt by the tension of the Compression Spring 13.98 in advance. If the CR Timing Belt is replaced without doing this extension process, misalignment of the belt or print failure may occur. Therefore, make sure to follow the assembling procedure when installing the CR Timing Belt.

When installing the CR Driven Pulley Assy and CR Timing Belt, follow the procedure below.

1. Install the CR Driven Pulley Assy to the Main Frame.
2. Attach the Compression Spring 13.98 in the order from the dowel on the CR Driven Pulley Assy to the rib on the Main Frame.
3. Attach the CR Timing Belt to the CR Driven Pulley Assy.
4. Attach the CR Timing Belt on the pinion gear of the CR Motor while pushing the CR Driven Pulley Assy to the 0-digit side.
5. Wait five minutes for CR Timing Belt to be extended by the tension of the Compression Spring 13.98.
6. Secure the CR Driven Pulley Assy wit the screw.

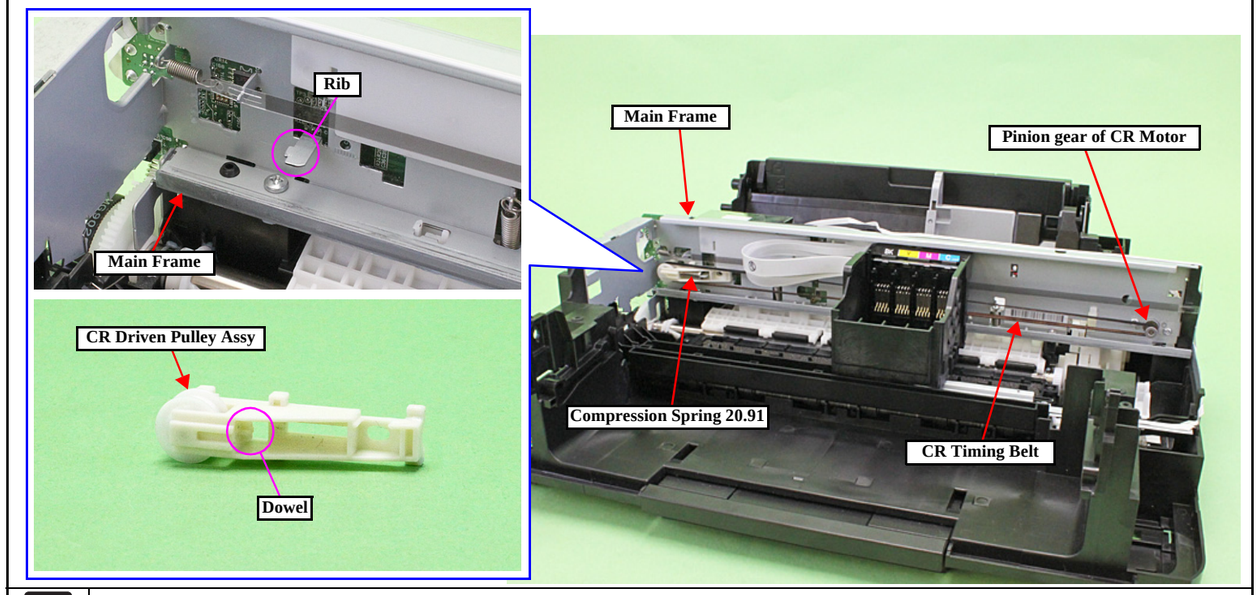
PF Encoder Sensor / PF Scale



Do not reuse the removed PF Scale and make sure to replace it with a new one when removing it.
When installing the PF Scale, it is pressed into the PF Roller, therefore, the removed one is deformed. If it is re-installed to the printer, it does not rotate properly and the paper feed accuracy may be reduced.

- When installing the PF Scale to the PF Roller, press the PF Scale into the PF Roller vertically.
- After installing the PF Encoder Sensor, confirm the PF Scale does not touch the PF Encoder Sensor.

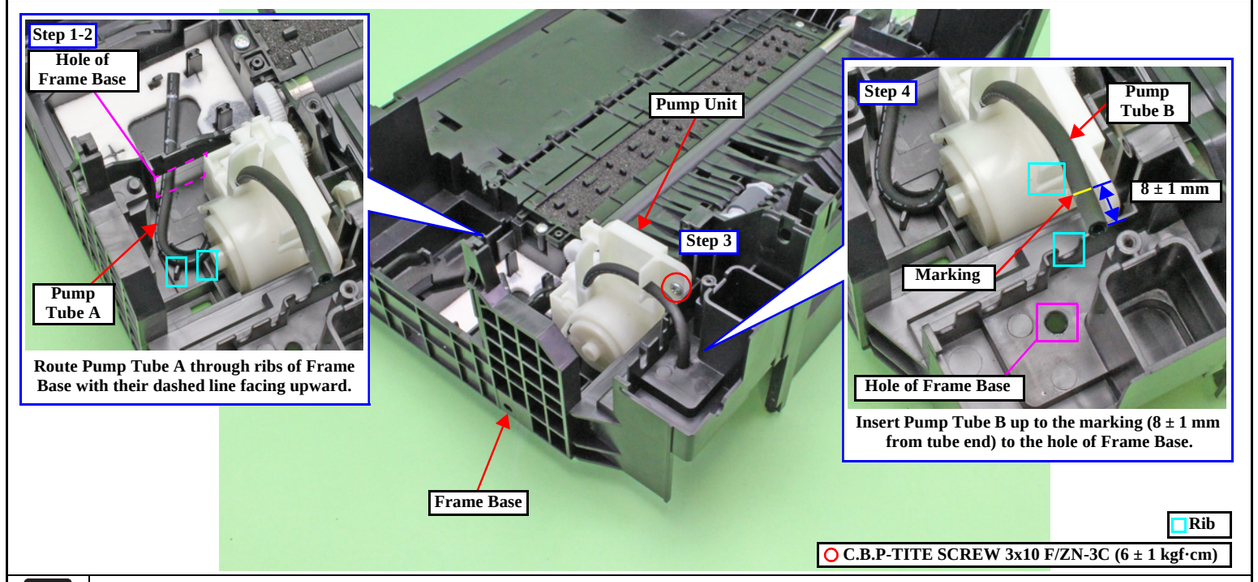
CR Driven Pulley Assy / CR Timing Belt (L365/L366,L360/L362,L310/L312 Series)



When installing the CR Driven Pulley Assy and CR Timing Belt, follow the procedure below.

1. Install the CR Driven Pulley Assy to the Main Frame.
2. Attach the Compression Spring 20.91 in the order from the dowel on the CR Driven Pulley Assy to the rib on the Main Frame.
3. Attach the CR Timing Belt to the CR Driven Pulley Assy.
4. Attach the CR Timing Belt on the pinion gear of the CR Motor while pushing the CR Driven Pulley Assy to the 0-digit side.

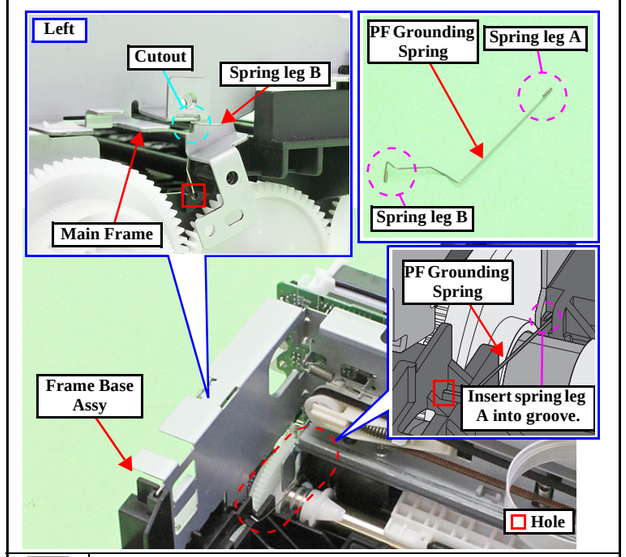
Pump Unit


Step 1-2
Hole of Frame Base
Pump Tube A
Route Pump Tube A through ribs of Frame Base with their dashed line facing upward.
Pump Unit
Step 3
Frame Base
Step 4
Pump Tube B
8 ± 1 mm
Marking
Hole of Frame Base
Insert Pump Tube B up to the marking (8 ± 1 mm from tube end) to the hole of Frame Base.
Rib
C.B.P-TITE SCREW 3x10 F/ZN-3C (6 ± 1 kgf·cm)

When installing the Pump Unit, follow the procedure below in order to prevent ink suction failure.

1. Route the Pump Tube A through the hole of the Frame Base.
2. Install the Pump Unit to the Frame Base, and route the Pump Tube A through the ribs of the Frame Base with their dashed line facing upward.
3. Secure the Pump Unit to the Frame Base with the screw (x1).
4. Route the Pump Tube B through the ribs of the Pump Unit and Frame Base, and insert it to the hole of the Frame Base up to the marking (8 ± 1 mm from tube end).

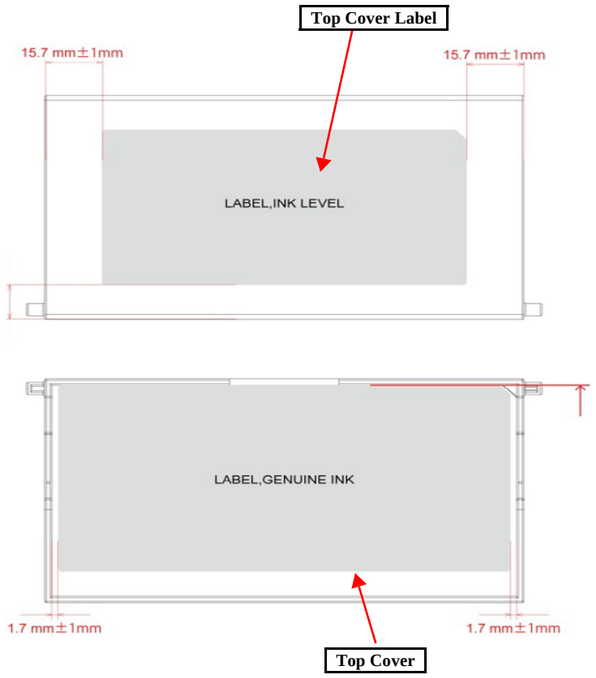
PF Grounding Spring



When installing the PF Grounding Spring, follow the procedure below.

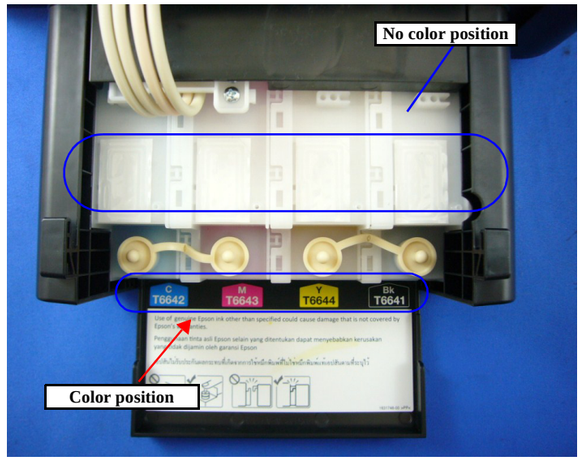
1. From the left side of the printer, insert the spring leg A of the PF Grounding Spring into the hole of the Frame Base.
2. Insert the spring leg B of the PF Grounding Spring into the groove of the Frame Base.
3. Attach the spring leg B of the PF Grounding Spring to the cutout of the Main Frame to install the PF Grounding Spring.

Top Cover



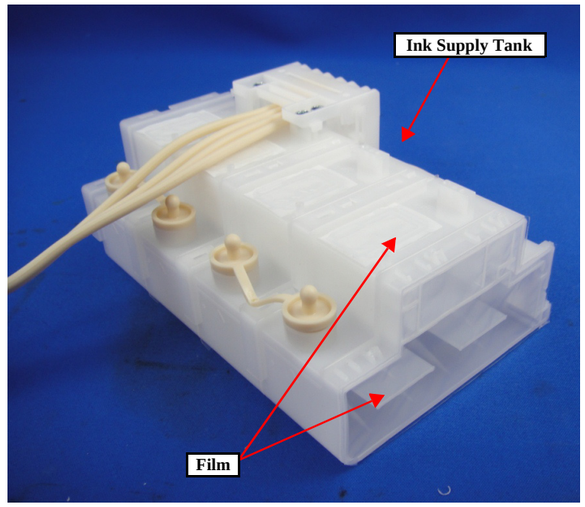
When attaching the Top Cover Label, align it with the markings on the Top Cover as shown in the figure above.

Top Cover



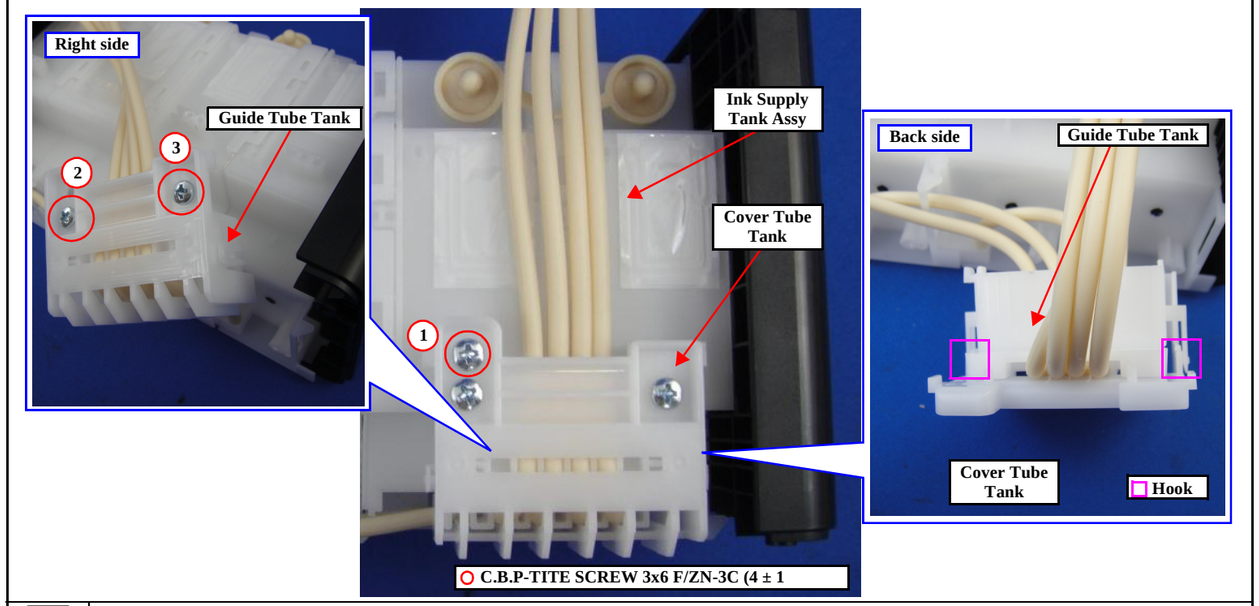
- Color indication on Ink Tank is deleted. Color position is specified on Top Cover.

Ink Supply Tank Assy



- Be careful not to damage or peel off the film of the Ink Supply Tank.
- Be careful about how to place the Ink Supply Tank Assy in order to prevent printing failure from occurring. (See **"2.1.5Checks and Precautions before Disassembling (p25)"**.)

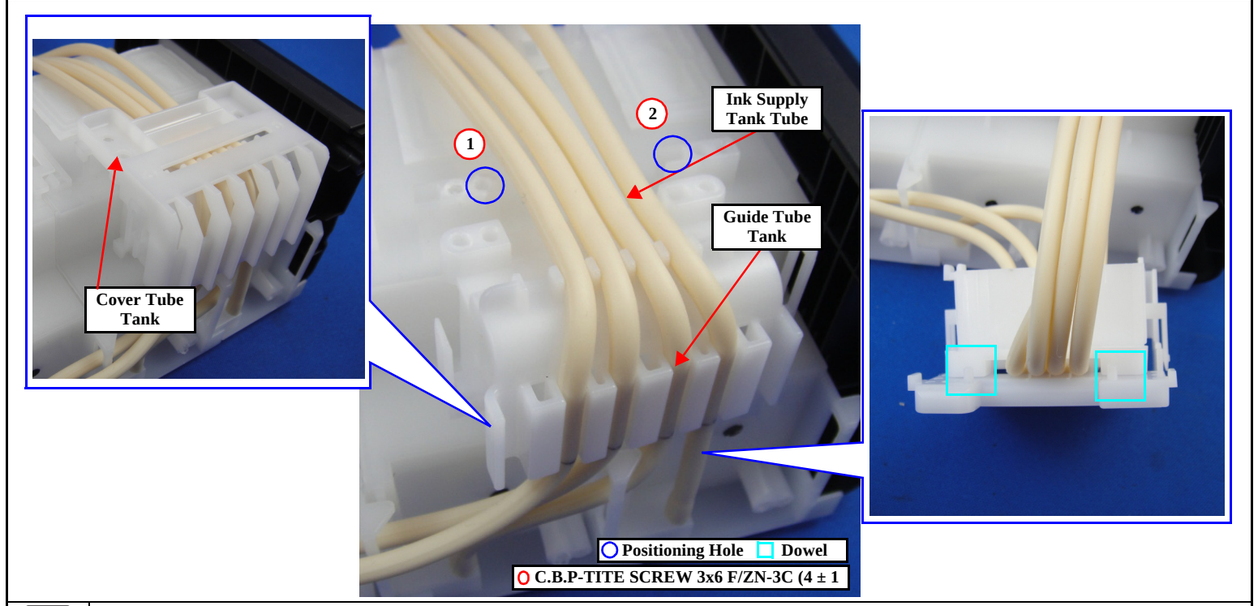
Cover / Guide Tube Tank



Follow the procedure below when removing the Cover Tube Tank and Guide Tube Tank.

1. Removing the screw (x1) of the Cover Tube Tank from Ink Supply Tank Assy.
2. Removing the screw (x2) of the Cover Tube Tank .
3. Removing the hooks (x2) of the Cover Tube Tank and separating Cover Tube Tank and Guide Tube Tank.

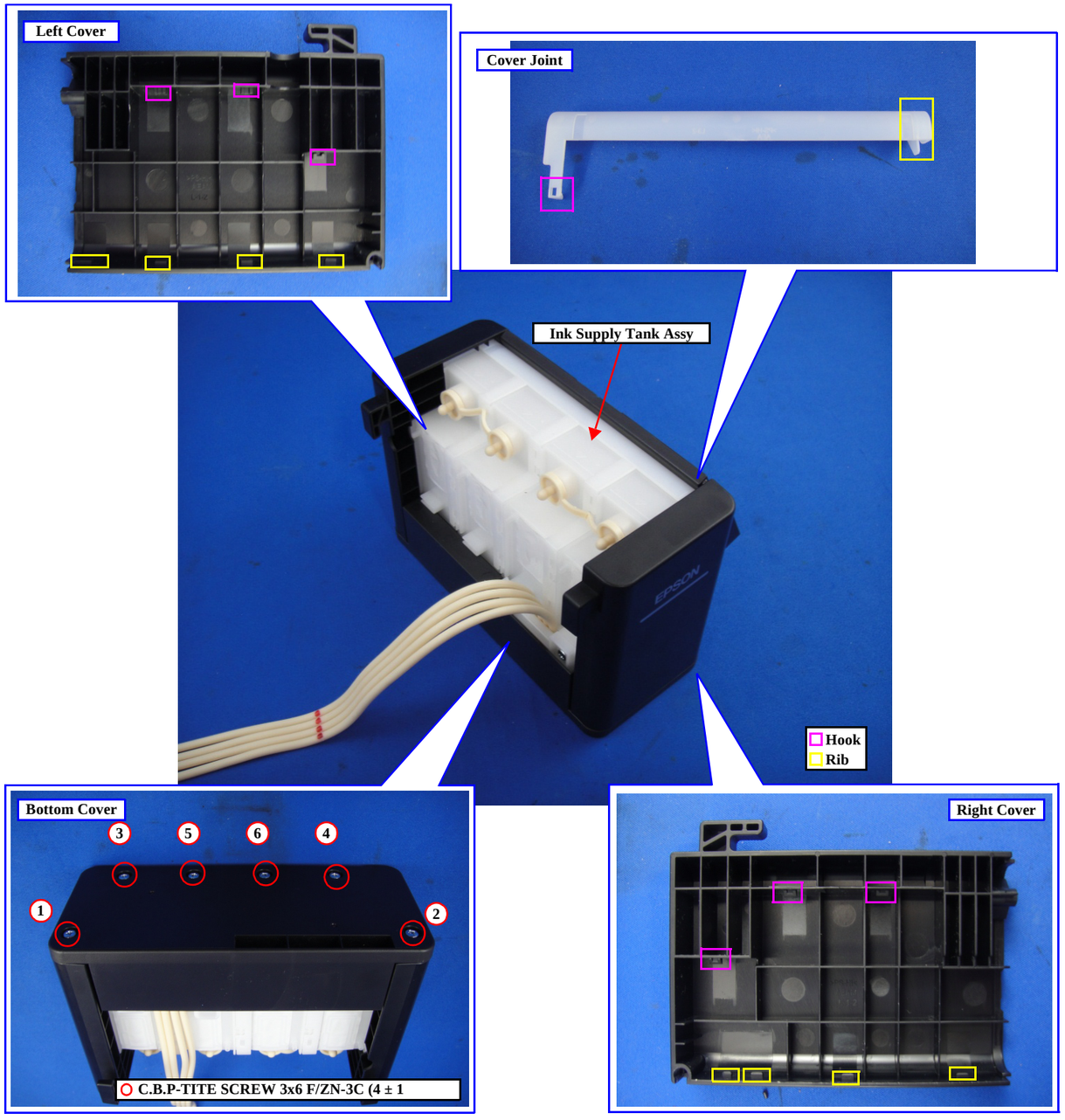
Cover / Guide Tube Tank



Follow the procedure below when installing the Cover Tube Tank and Guide Tube Tank.

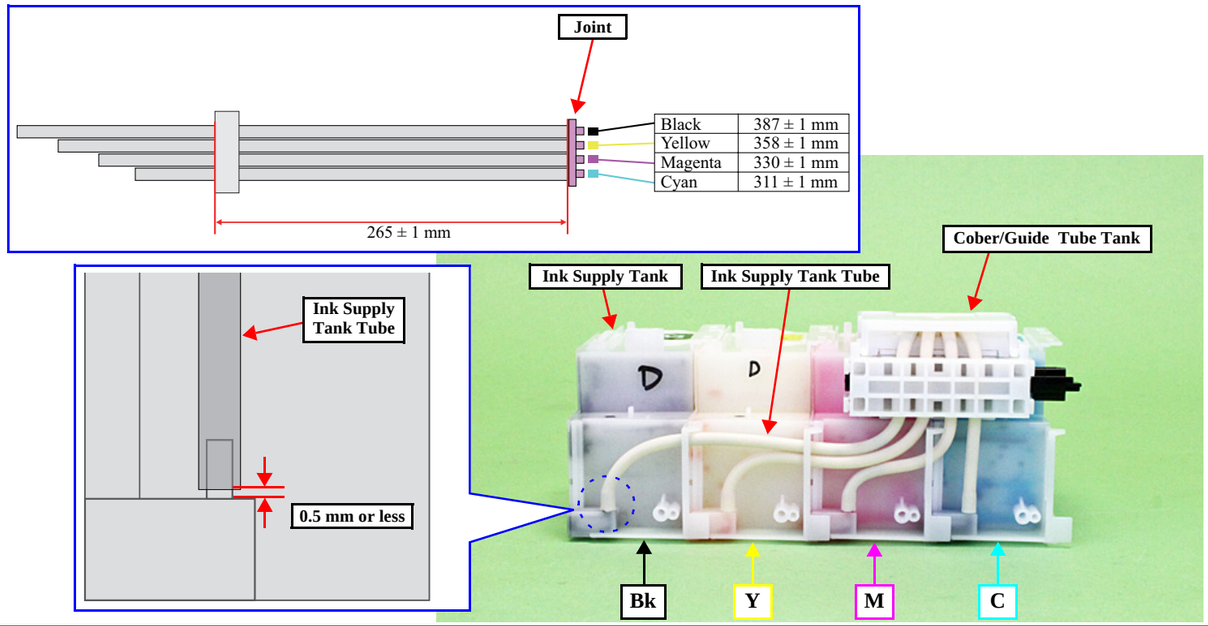
1. Joint the Cover Tube Tank to Guide Tube Tank and tighten the screw (x1) of the Cover Tube Tank.
2. Insert the dowels (x2) of the Cover Tube Tank to the positioning Hole (x2) of the Ink Supply Tank Assy.
3. Tighten the screw (x2) of the Cover Tube Tank.

Bottom Cover / Left Cover / Right Cover / Cover Joint



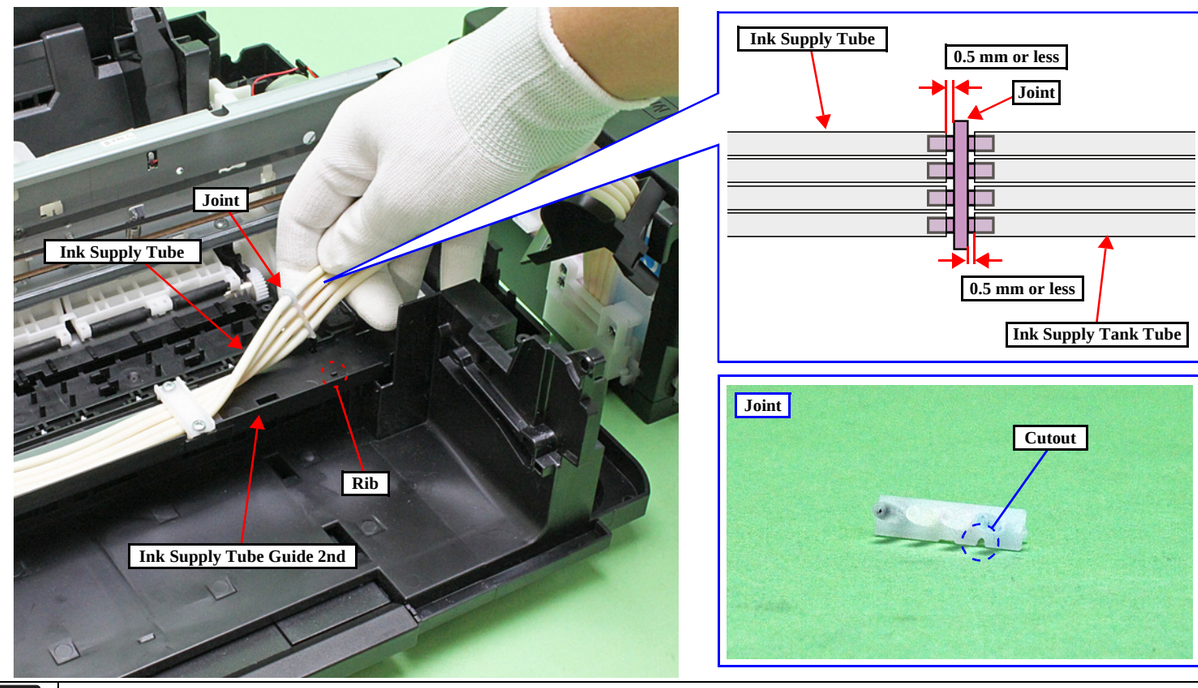
!	Be careful about how to place the Ink Supply Tank Assy in order to prevent printing failure from occurring. (See **"2.1.5Checks and Precautions before Disassembling (p25)"**.)
	■ The figures above indicate the hooks and ribs that secure the parts. ■ Remove the exterior parts of the Ink Supply Tank Assy in the following order. 1. Remove the screws (x6) of the Bottom Cover, and remove the Bottom Cover. 2. Remove the Left Cover and Right Cover. 3. Remove the Cover Joint.
	Tighten the screws in the order indicated in the figure above.

Ink Supply Tank Tube Assy



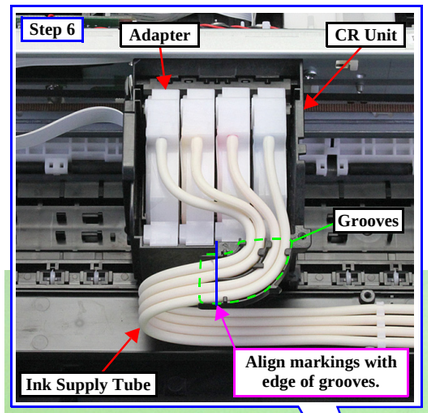
	■ When connecting the Ink Supply Tank Tube to the Ink Supply Tank, confirm the color indicated on the film of the Ink Supply Tank, and take care not to connect them with wrong joints. ■ When connecting the Ink Supply Tank Tube to the Ink Supply Tank, insert the tubes to the full and make sure the gaps between the end of tubes and the tank are 0.5 mm long or less.

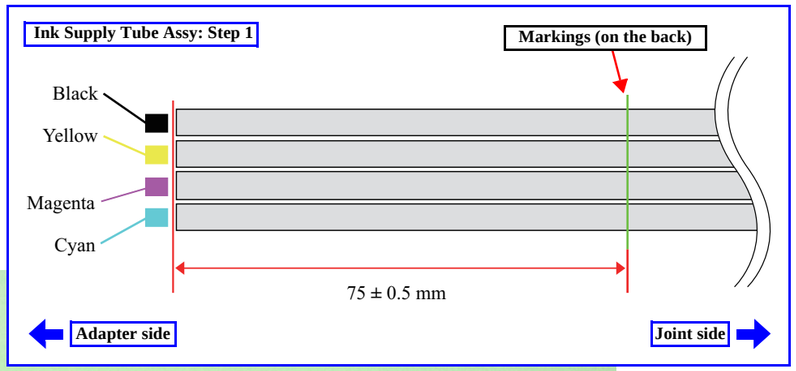
Joint

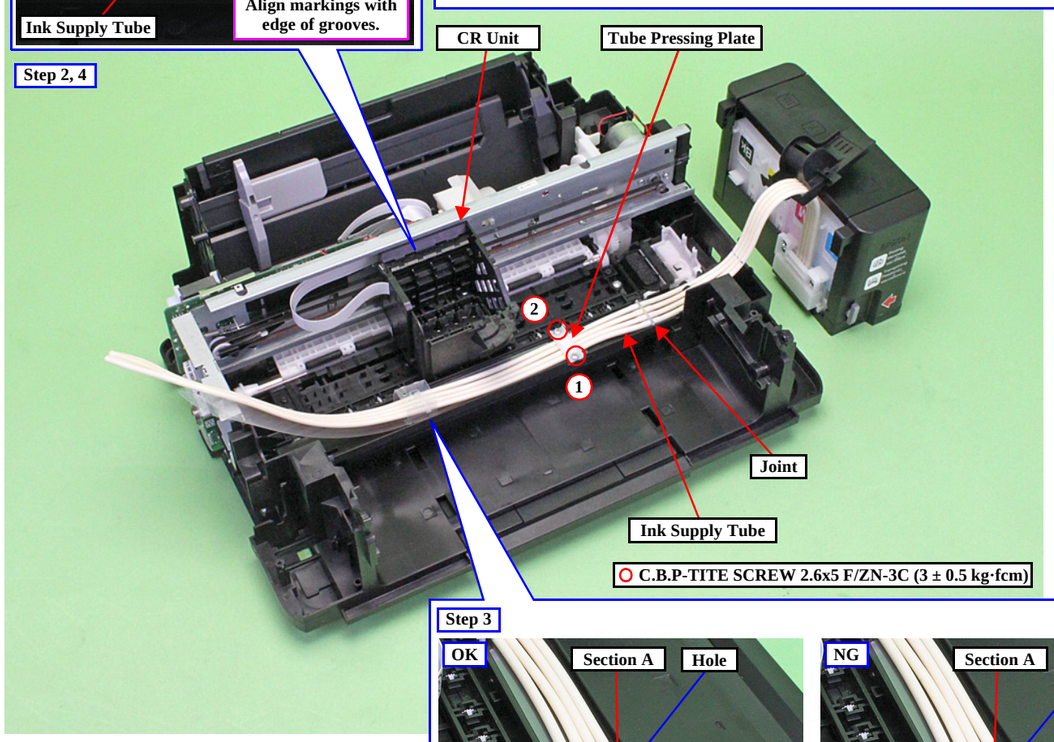


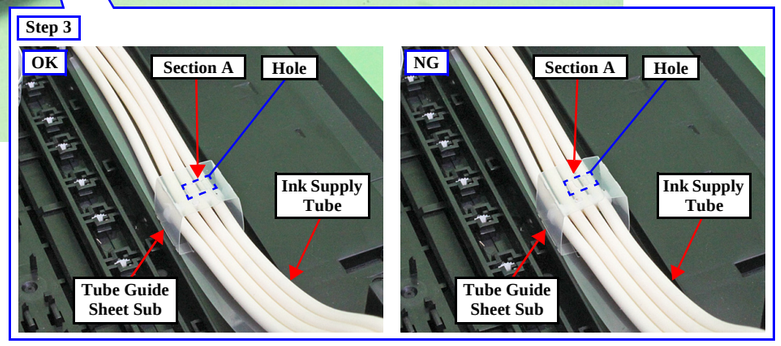
	■ When attaching the Joint, align the cutout of the Joint with the rib of the Ink Supply Tube Guide 2nd. ■ Make sure the gaps between the end of Ink Supply Tank Tubes or Ink Supply Tubes and the Joint are 0.5 mm long or less.

Ink Supply Tube Assy





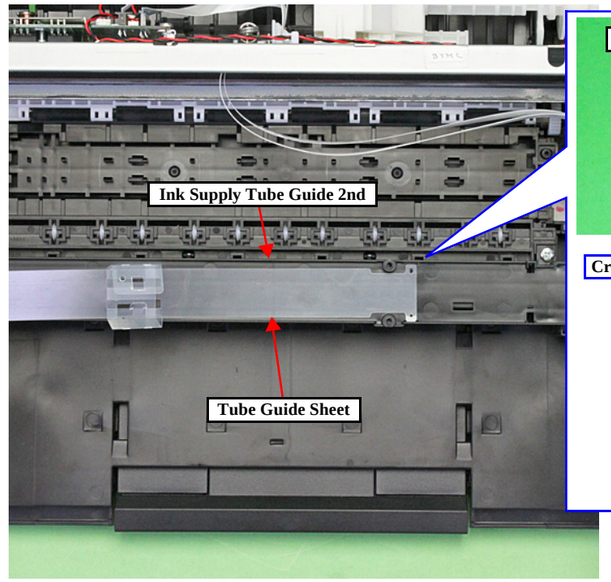


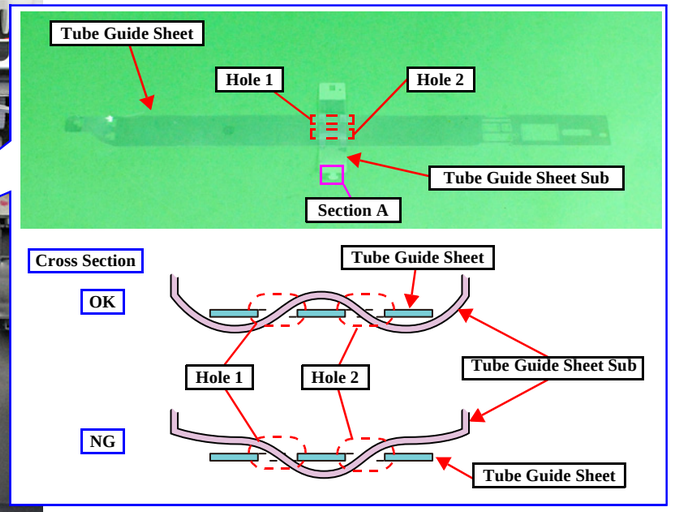


Follow the procedure below when installing the Ink Supply Tube Assy.

1. Mark up the position where is 75 ± 0.5 mm away from the adapter of the Ink Supply Tube Assy.
2. Connect the Ink Supply Tube to the Joint.
3. Place the Ink Supply Tube Assy on the Tube Guide Sheet, and engage the both ends of the Tube Guide Sheet Sub by inserting one end (Section A) into the hole of the other end from above.
4. Attach the Tube Pressing Plate and screw it tightening the screws in the order shown above.
5. Connect the Ink Supply Tube to the Adapter, and install the Adapter to the CR Unit. (p 48)
6. Route the Ink Supply Tubes through the grooves of the CR Unit, and align the markings on the Ink Supply Tubes with the edge of the grooves as shown in the figure above.

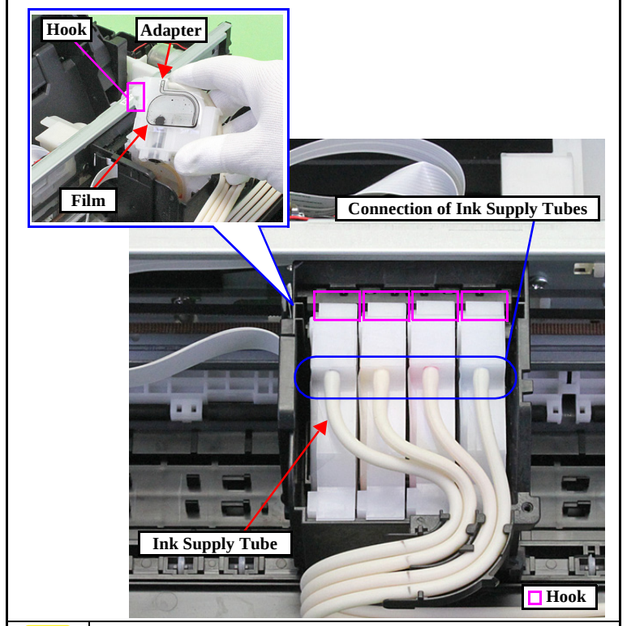
Tube Guide Sheet / Tube Guide Sheet Sub





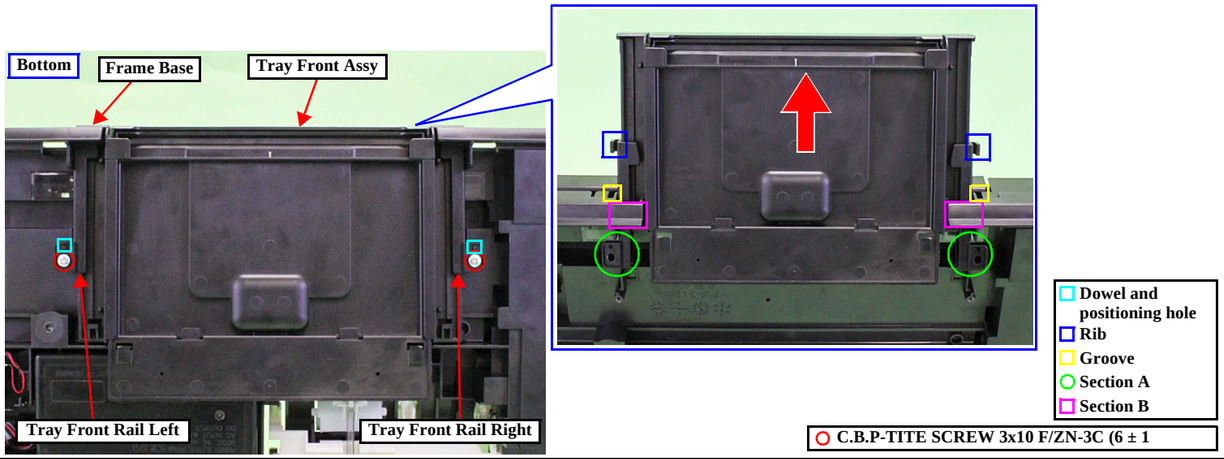
- Refer the figure above and follow the procedure below when attaching the Tube Guide Sheet Sub to the Tube Guide Sheet.
  1. Insert the section A of the Tube Guide Sheet Sub into the hole 1 of the Tube Guide Sheet from the bottom.
  2. Insert the section A of the Tube Guide Sheet Sub into the hole 2 of the Tube Guide Sheet from the top.
- When attaching the Tube Guide Sheet to the Ink Supply Tube Guide 2nd, while keeping the Tube Guide Sheet Sub attached on the Tube Guide Sheet, align the holes of the Tube Guide Sheet with the protrusions of the Ink Supply Tube Guide 2nd.

Adapter



Be careful not to damage or peel off the film of the Adapter.

Tray Front Rail Left/Tray Front Rail Right, Tray Front Assy (L310/L312,L130/L132 Series)

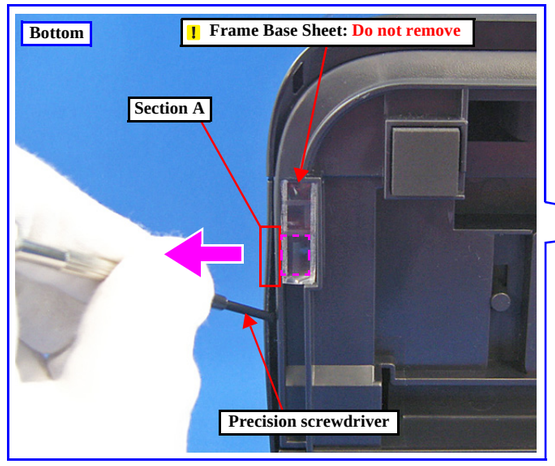


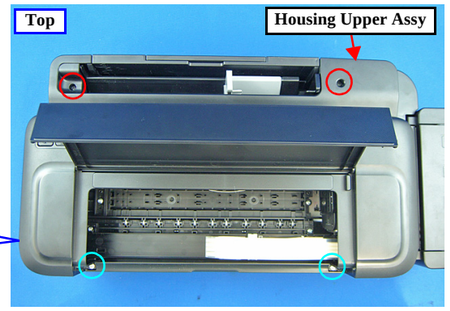
Make sure to remove the Tray Front Assy and Tray Front Rail Left/Tray Front Rail Right after releasing the ribs on the Tray Front Rail Left/Tray Front Rail Right from the grooves on the Frame Base. If the Tray Front Assy or Tray Front Rail Left/Right are forcibly removed if the ribs are engaged in the grooves, the ribs may be damaged.

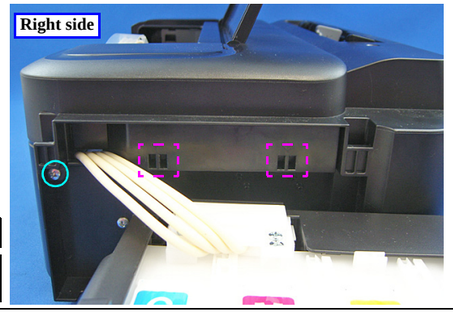
When removing the Tray Front Rail Left/Tray Front Rail Right and Tray Front Assy, follow the procedure below.

1. Remove the screws (x1 each) of the Tray Front Rail Left/Tray Front Rail Right.
2. Release the positioning holes (x1 each) of the Tray Front Rail Left/Tray Front Rail Right from the dowel (x2) of the Frame Base.
3. Pull the Tray Front Assy and Tray Front Rail Left/Tray Front Rail Right together, and release the ribs (x1 each) of the Tray Front Rail Left/Tray Front Rail Right from the grooves of the Frame Base.
4. While releasing section A on the Tray Front Rail Left/Tray Front Rail Right from section B on the Frame Base, remove the Tray Front Assy and Tray Front Rail Left/Tray Front Rail Right together.

Housing Upper Assy (L310/L312,L130/L132 Series)







Hook

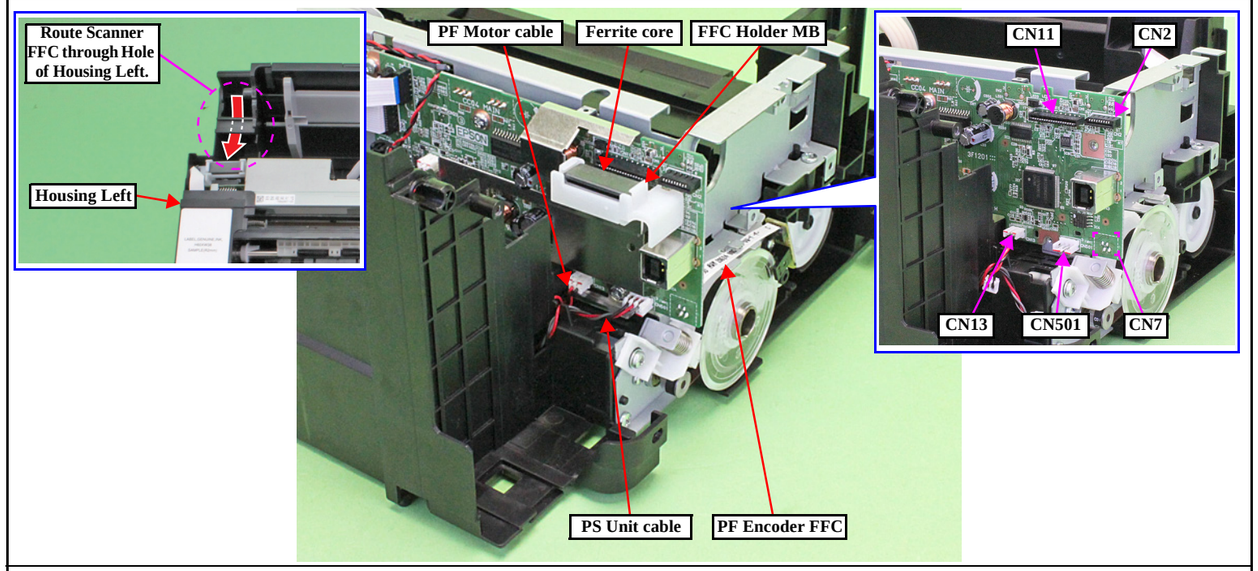
C.B.P-TITE SCREW 3x10 F/ZB-3C (6 ± 1 kgf·cm)
C.B.P-TITE SCREW 3x10 F/ZN-3C (6 ± 1

To prevent ink mist from coming out from the printer, the Frame Base Sheet is attached on the bottom of the Frame Base. Do not peel off the Frame Base Sheet when removing the Housing Upper Assy, because the Frame Base Sheet is not reusable.

Release the hooks shown above when removing the Housing Upper.

2.4 Routing FFCs/cables

Left side of Main Board

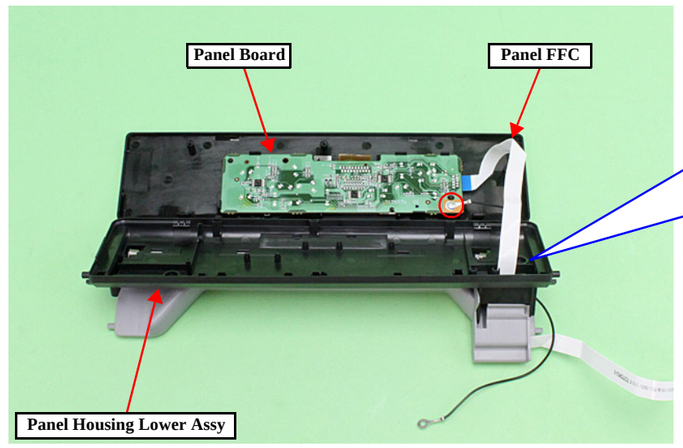


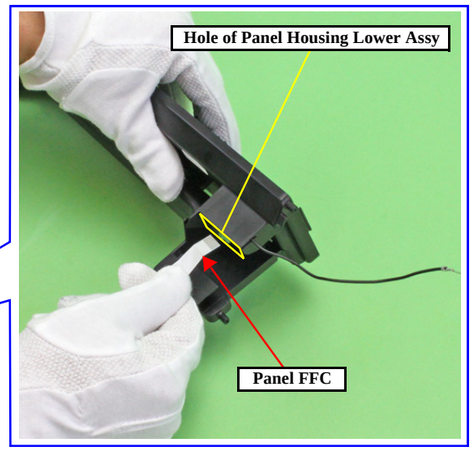
Connect the following cables/FFCs to the Main Board as shown in the figure above.

- PF Motor cable (CN13)
- Panel FFC (CN2: L365/L366,L360/L362,L220/L222 Series only)
- Scanner FFC (CN11: L365/L366,L360/L362,L220/L222 Series only)
- PS Unit cable (CN501)
- Wireless LAN Module cable (CN4: L365/L366 Series only)
- PF Encoder FFC (CN7)

Attach the ferrite core to the FFC Holder MB, and route the FFC through the hole of the Housing Left and the ferrite core, and then connect it to the Main Board.

Inside the Panel Unit (L365/L366,L360/L362,L220/L222 Series)



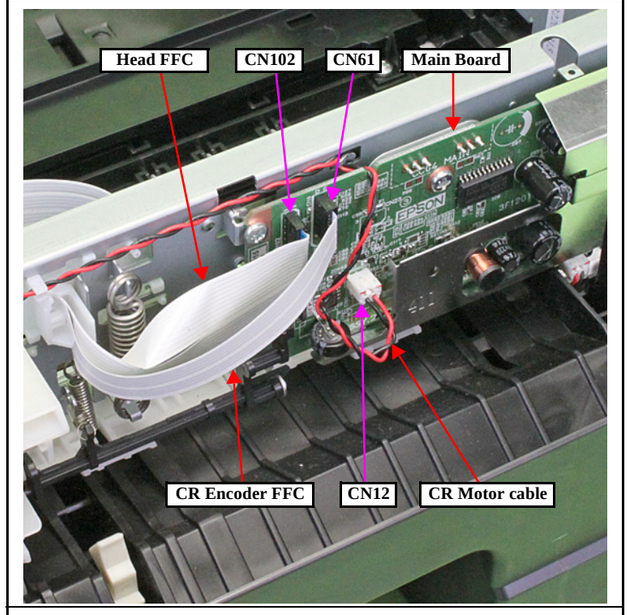


○ C.B.P-TITE SCREW 3x10 F/ZN-3C (6 ± 1 kgf·cm)

- Route the Panel FFC through the hole of the Panel Housing Lower Assy with its terminal side upward as shown in the figure above.
- Fold the Panel FFC aligning it with its folded lines, and then connect the FFC to the connector (CN1) on the Panel Board firmly.

Note: This product does not have any panel grounding wire. The above figure includes a grounding wire because an XP-400 Series photo is used, however, there is no difference in this procedure.

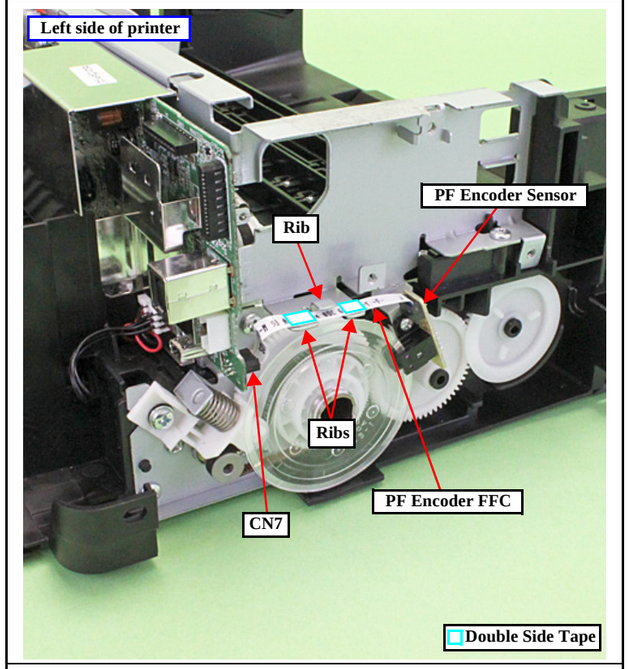
Right side of Main Board



Connect the following cables/FFCs to the Main Board as shown in the figure above.

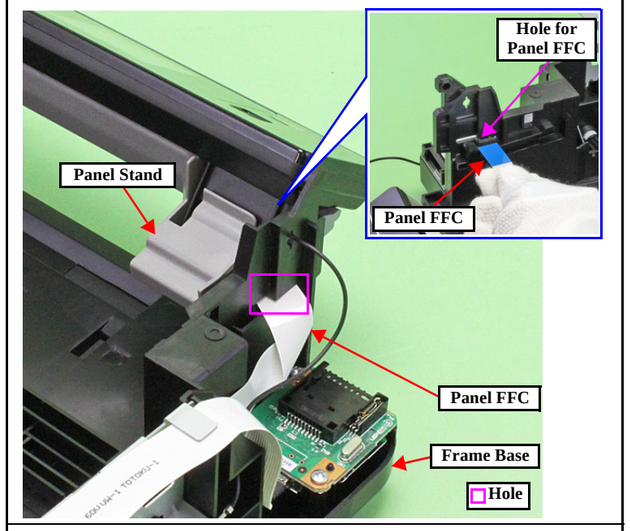
- CR Motor cable (CN12)
- CR Encoder FFC (CN61)
- Head FFC (CN102)

PF Encoder Sensor



Route the PF Encoder FFC through the ribs (x2) of the Main Frame and connect it to the connector (CN7) on the Main Board, and then secure it with double-sided tape (x2) on the positions shown in the figure above.

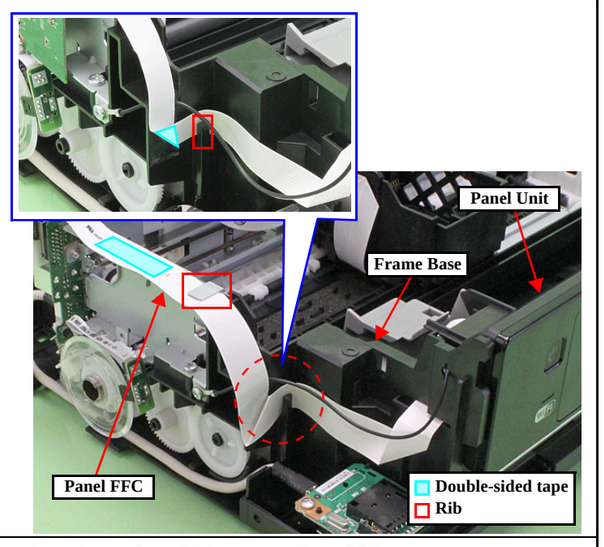
Panel Unit (1) (L365/L366,L360/L362,L220/L222 Series)



- Route the Panel FFC as follows before installing the Panel Unit.
  - Route the Panel FFC through the hole of the Frame Base as shown above with the side with the stiffener upward.
- Before installing the Panel Unit, make sure that the Panel FFC is routed correctly without any part getting caught.

Note: This product does not have any panel grounding wire. The above figure includes a grounding wire because an XP-400 Series photo is used, however, there is no difference in this procedure.

Panel Unit (2) (L365/L366,L360/L362,L220/L222 Series)

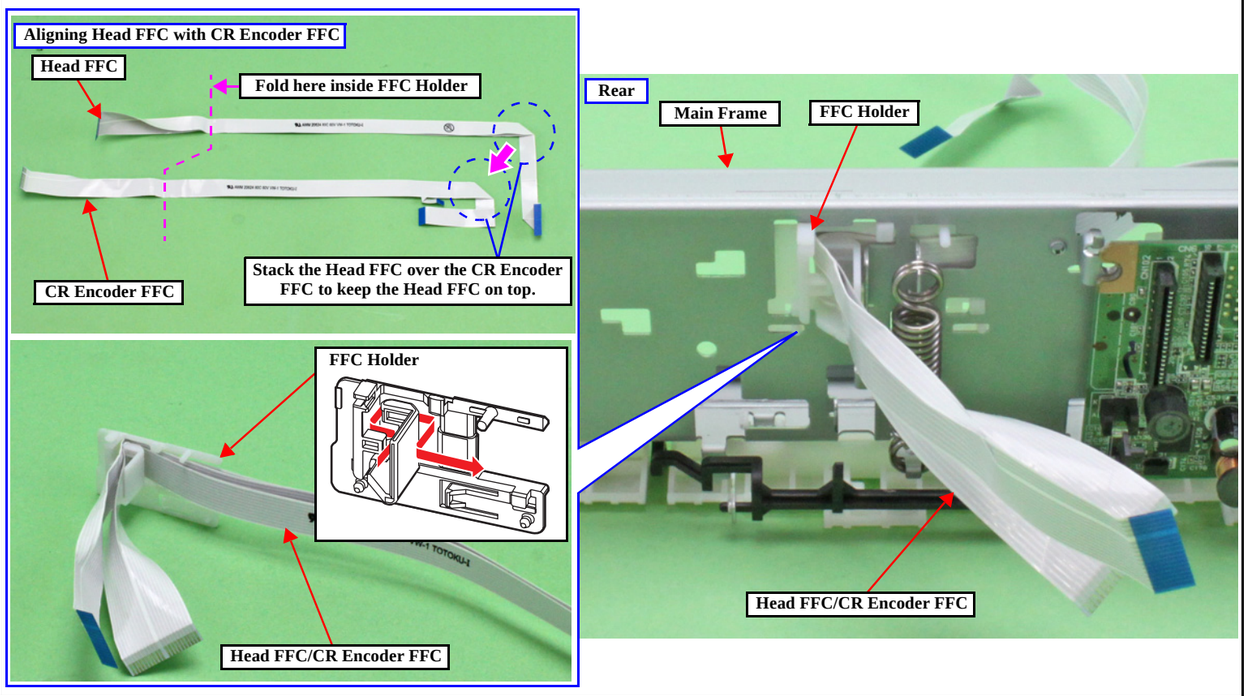


After installing the Panel Unit, route the Panel FFC pulled out from the hole of the Frame Base as follows.

- Route Panel FFC through the ribs (x2) of the Frame Base and Main Frame with folded along the fold line, and then secure it with double-sided tape on the position shown in the figure above.

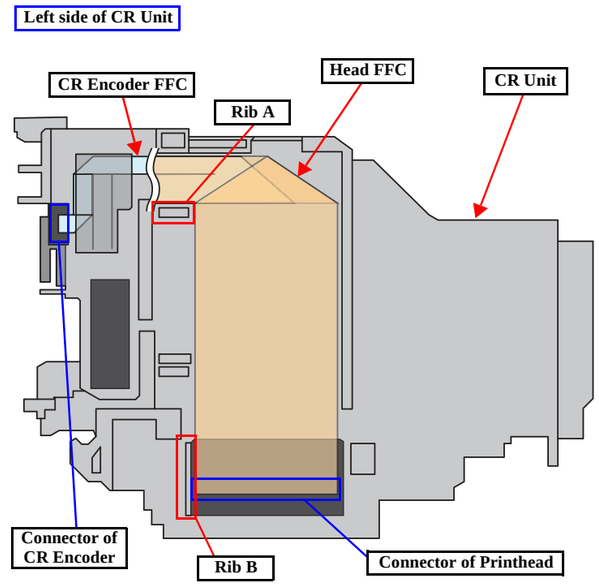
Note: This product does not have any panel grounding wire. The above figure includes a grounding wire because an XP-400 Series photo is used, however, there is no difference in this procedure.

Head FFC (Routing on the Main Frame)


Aligning Head FFC with CR Encoder FFC
Head FFC
Fold here inside FFC Holder
CR Encoder FFC
Stack the Head FFC over the CR Encoder FFC to keep the Head FFC on top.
FFC Holder
Head FFC/CR Encoder FFC
Rear
Main Frame
FFC Holder
Head FFC/CR Encoder FFC

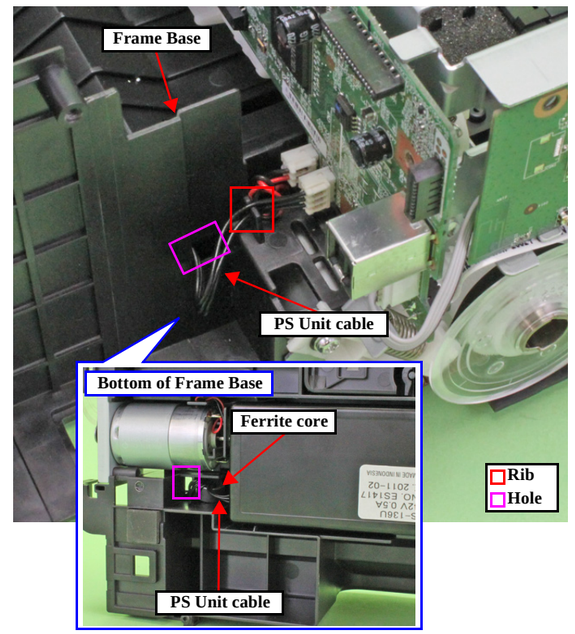
Align the Head FFC and CR Encoder FFC, and then route them through the FFC Holder as shown in the figure above.

Head FFC (Routing on the CR Unit)



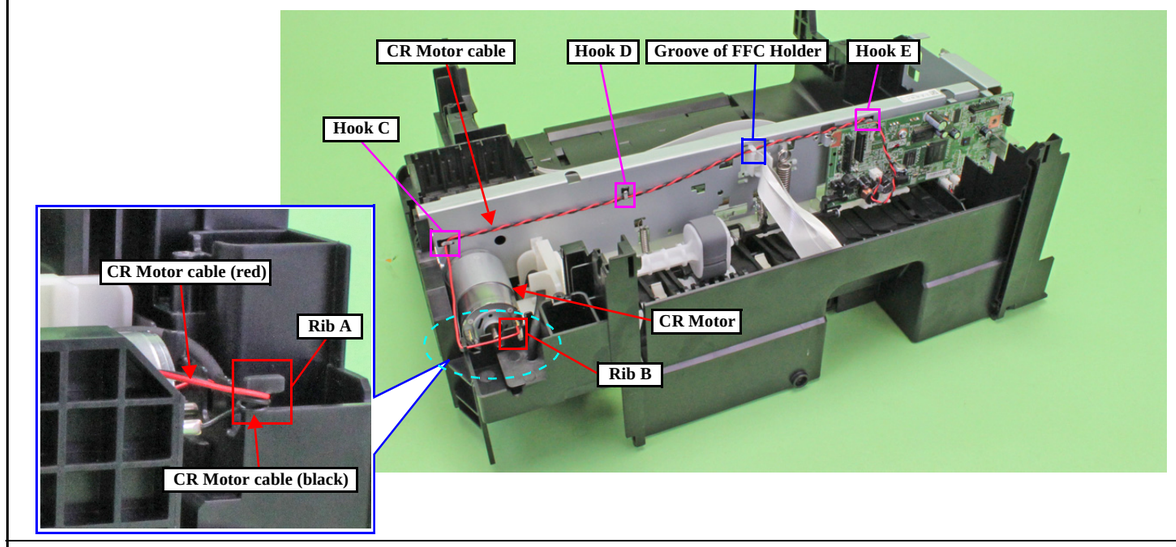
- Route the CR Encoder FFC along the Rib A and connect it to the connector of the CR Encoder.
- Route the Head FFC through the rib B and C, and then connect it to the connector of the Printhead.

PS Unit



- Pull out the PS Unit cable from the hole of the Frame Base first, and then route it through the rib of the Frame Base.
- Put the ferrite core into the position shown in the figure above.

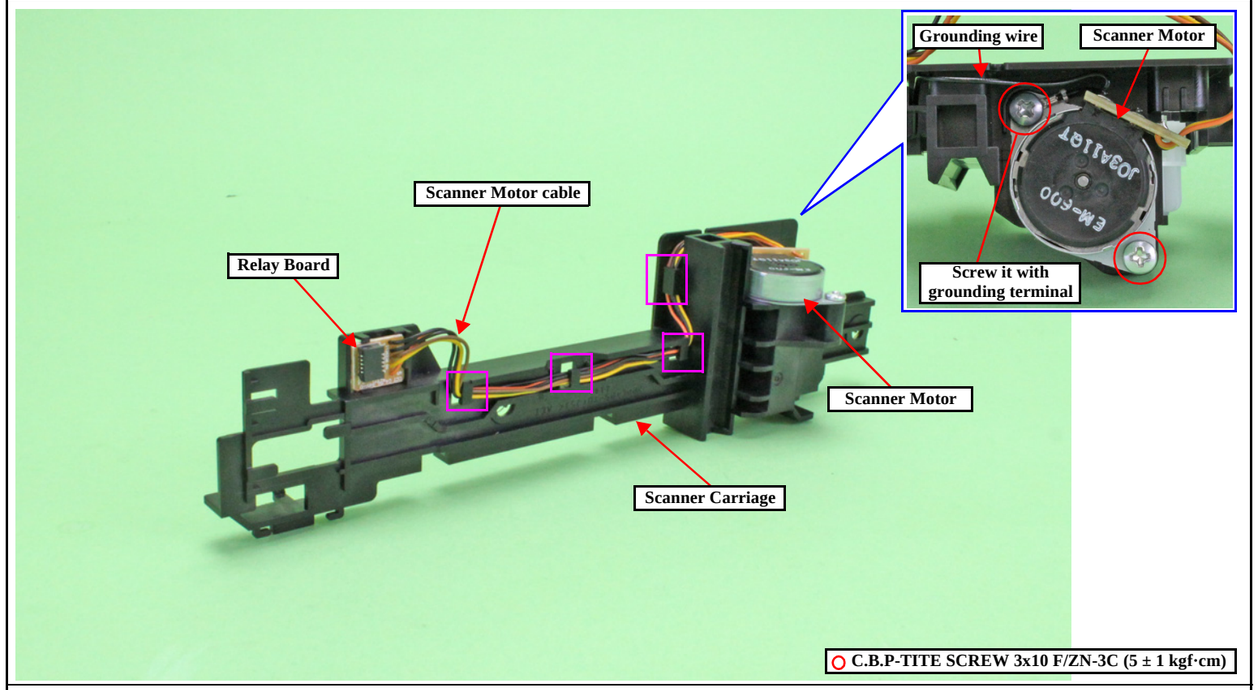
CR Motor



Route the CR Motor cable as follows before installing the Shield Plate.

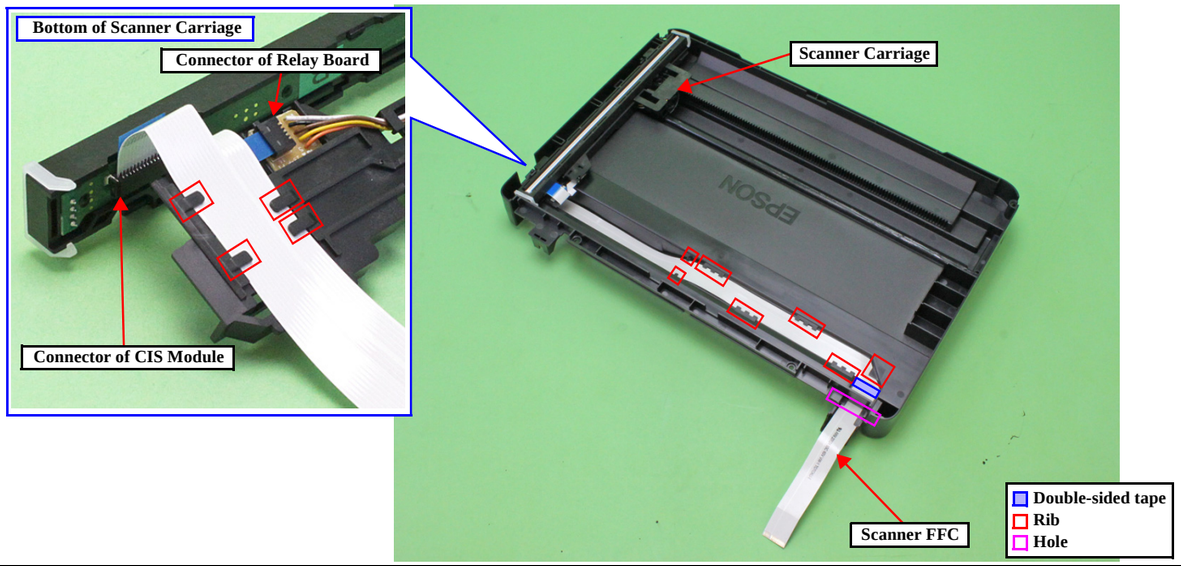
1. Route the CR Motor cable (black) around the rib A of the Frame Base (two turns).
2. Route the CR Motor cable (red) through the rib B of the Frame Base, and then route it through the rib A taking care not to let the CR Motor cable (red) come over the CR Motor cable (black).
3. Twist the CR Motor cable (black) and CR Motor cable (red) twice, and then route them through the hook C of the Main Frame.
4. Route the CR Motor cable (black) and CR Motor cable (red) in the order of hook D of the Main Frame, groove of the FFC Holder, and hook E of the Main Frame.

Scanner Motor (L365/L366,L360/L362,L220/L222 Series)



- Route the Scanner Motor cable through the hooks (x4) of the Scanner Motor as shown above.
- Secure the grounding wire of the Relay Board and the Scanner Motor together with the screw as show above.

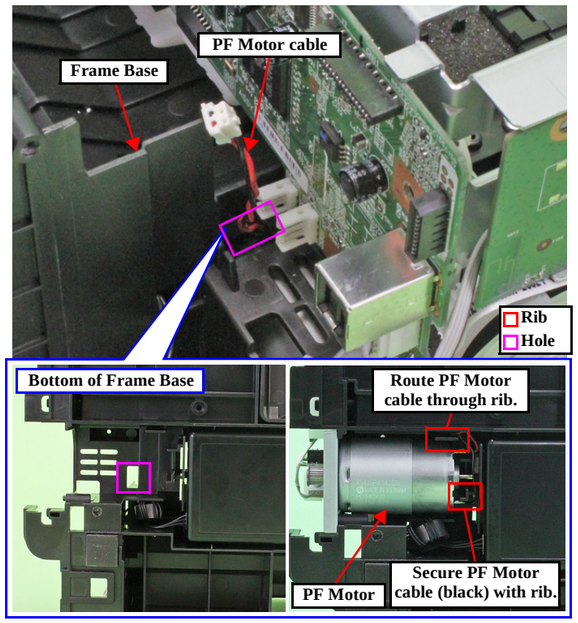
Scanner FFC (L365/L366,L360/L362,L220/L222 Series)



Route the Scanner FFC as follows.

1. Insert the Scanner FFC through the hole of the Scanner Housing Lower in the direction shown above, and then secure the FFC with double-sided tape on position shown in the figure above.
2. Route the FFC through the ribs (x7) of the Scanner Housing Lower taking care not to damage the FFC.
3. Route the FFC through the ribs (x5) on the bottom of the Scanner Carriage taking care not to damage the FFC.
4. Connect the Scanner FFC to the Relay Board and CIS Module as shown above.

PF Motor



Route the PF Motor cable as follows.

1. Pull out the PF Motor cable from the hole of the Frame Base.
2. Install the PF Motor, and secure the PF Motor cable (black) with the rib of the Frame Base, and then route it through the rib of the Frame Base.

CHAPTER **3**

ADJUSTMENT

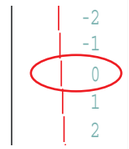
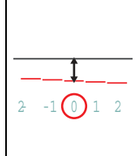
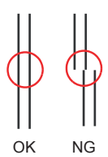
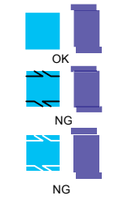
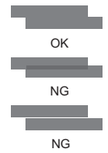
3.1 Required Adjustments

The table from the following page lists the required adjustments depending upon the parts being repaired or replaced. Find the part(s) you removed or replaced, and check which adjustment(s) must be carried out.

- **If the EEPROM data cannot be read out from the old Main Board using the Adjustment Program when replacing the Main Board is required, the Waste Ink Pad Assy must be replaced with the Main Board at the same time.**
- **After all required adjustments are completed, use the "Final check pattern print" function to print all adjustment patterns for final check. If you find a problem with the printout patterns, carry out the adjustment again.**
- **When replacing the Main Board, the adjustment should be made after performing the initial setting.**

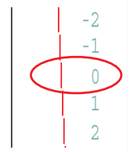
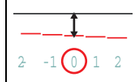
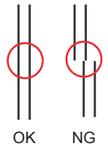
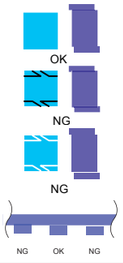
- **In this chapter, the product names are called as follows:**
  - **L365/L366 Series:L365/L366**
  - **L360/L362 Series:L360/L362/L363**
  - **L310/L312 Series:L310/L312/L313**
  - **L220/L222 Series:L220/L222**
  - **L130/L132 Series:L130/L132**
- **The table items and marks used in the "Required Adjustment List" provided on the following pages have the following meanings.**
  - **"O" indicates that the adjustment must be carried out.**
  - **"---" indicates that the adjustment is not required.**
  - **The "Mechanism Adjustment" should be performed just after reinstalling or reassembling the part or unit.**
  - **The "Adjustments using the Adjustment Program" need to be performed after reassembling the printer completely.**
- **If you have removed or replaced multiple parts, make sure to check the required adjustments for the all parts. And when multiple adjustments must be carried out, be sure to carry out them in the order given in the "Priority" row.**

Table 3-1. Required Adjustment List

Adjustment Type			Mechanism adjustment		Adjustment using the Adjustment Program														
Priority			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Adjustment Item			Checking the Platen Gap	CR/PF Belt tension check	EEPROM data copy	Initialize Setting	Head ID input	Ink charge	Maintenance counter	First dot position adjustment	TOP margin adjustment	Head angular adjustment	Bi-D adjustment	PF/EJ adjustment	PF band adjustment	PF deterioration offset	CR motor heat protection control	PF motor heat protection control	Scanner motor heat protection control
Purpose			Check if the PG is within the standard.	Check the tension of the CR Timing Belt and PF Timing Belt.	To copy adjustment values or the like stored on the old Main Board to the new board when the Main Board needs to be replaced.	To write sale-destination-specific settings and the serial number into the Main Board after replacing it. And also to set the MAC address as necessary.	To correct characteristic variation of the replaced Printhead by entering its Printhead ID (Head ID).	To fill ink inside the new Printhead to make it ready for print after replacing the Printhead.	To reset the waste ink counter after replacing the Waste Ink Pad Assy.	To correct the print start position in the CR Unit moving direction through software control.	This corrects top margin of printout.	To correct tilt of the Printhead caused at the installation through software control.	To correct print start timing in bidirectional printing through software control.	To correct variations in paper feed accuracy to achieve higher print quality.	To correct variations in paper feed accuracy to achieve higher print quality in band printing.	To reset the counter or set it to its maximum according to the replaced parts.	To measure and correct the electrical variation of the motor and the power supply board.	To measure and correct the electrical variation of the motor and the power supply board.	To measure and correct the electrical variation of the motor.
Part Name	Tray Front Assy	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	---	---	---	---	O	---	---	---	---	---
	Star Wheel Holder Assy	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	---	---	---	---	O	O	---	---	---	---
	Paper Guide Front Unit	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	O	---	---	---	---	---	---	---	---	---	O	O	O	---	---	---	---
	Printhead	Remove	---*1	---	---	---	---	---	---	---	---	O	O	---	---	---	---	---	---
		Replace	O	---	---	---	O	O	---	O	O	O	O	---	O	---	---	---	---
	Waste Ink Pad Assy	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	O	---	---	---	---	---	---	---	---	---	---
	Retard Roller Assy	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	---	O	---	---	---	---	---	---	---	---
Printout pattern			---	---	---	---	---	---	---							---	---	---	---
How to judge			See " 3.3.1 Checking the Platen Gap (p61)" for the details.	See " 3.3.2 CR/PF Belt Tension Check (p63)" for the details.	---	---	---	---	---	Examine the misaligned lines printed on the left side of the paper, and enter the number beside the line that is exactly 5 mm away from the paper edge.	Examine the misaligned lines printed on top of the paper, and enter the number beside the line that is exactly 5 mm away from the paper edge.	Enter the values of the most straight lines.	Examine the printout patterns for each of the four modes, and enter the value for the pattern with no gap and overlap for each mode.	■**Normal area pattern** Examine the printout patterns and enter the value for the pattern with fewest lines. ■**Bottom area pattern** Examine the printout patterns and enter the value for the pattern with no overlap and gap between the two rectangles.	Examine the printout patterns and enter the value for the pattern with no overlap and gap between the two rectangles.	---	See " 3.2.2.1 CR Motor Heat Protection Control / PF Motor Heat Protection Control (p59)" for the details.	See " 3.2.2.1 CR Motor Heat Protection Control / PF Motor Heat Protection Control (p59)" for the details.	See " 3.2.3 Scanner Motor Heat Protection Control (p60)" for the details.
Adjustment program			---	---	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
Tool			See p61	See p63	---	---	---	---	---	Ruler	Ruler	---	---	---	---	---	---	---	---

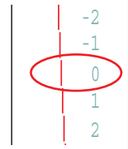
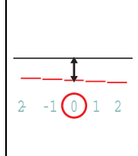
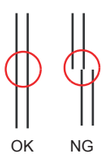
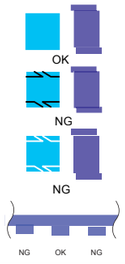
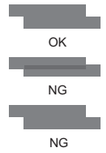
Note "*1": Necessary when the part is replaced at a point in the disassembly procedures other than specified in this manual.
"*2": Replacement of Waste Ink Pad Assy is necessary.
"*3": Perform PF Belt tension check only.
"*4": Perform CR Belt tension check only.

Table 3-1. Required Adjustment List

Adjustment Type			Mechanism adjustment		Adjustment using the Adjustment Program													
Priority			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Adjustment Item			Checking the Platen Gap	CR/PF Belt tension check	EEPROM data copy	Initialize Setting	Head ID input	Ink charge	Maintenance counter	First dot position adjustment	TOP margin adjustment	Head angular adjustment	Bi-D adjustment	PF/EJ adjustment	PF band adjustment	PF deterioration offset	CR motor heat protection control	PF motor heat protection control	Scanner motor heat protection control
Purpose			Check if the PG is within the standard.	Check the tension of the CR Timing Belt and PF Timing Belt.	To copy adjustment values or the like stored on the old Main Board to the new board when the Main Board needs to be replaced.	To write sale-destination-specific settings and the serial number into the Main Board after replacing it. And also to set the MAC address as necessary.	To correct characteristic variation of the replaced Printhead by entering its Printhead ID (Head ID).	To fill ink inside the new Printhead to make it ready for print after replacing the Printhead.	To reset the waste ink counter after replacing the Waste Ink Pad Assy.	To correct the print start position in the CR Unit moving direction through software control.	This corrects top margin of printout.	To correct tilt of the Printhead caused at the installation through software control.	To correct print start timing in bidirectional printing through software control.	To correct variations in paper feed accuracy to achieve higher print quality.	To correct variations in paper feed accuracy to achieve higher print quality in band printing.	To reset the counter or set it to its maximum according to the replaced parts.	To measure and correct the electrical variation of the motor and the power supply board.	To measure and correct the electrical variation of the motor and the power supply board.	To measure and correct the electrical variation of the motor.
Part Name	Scanner Unit	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	O
	Scanner Motor	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	O
	PS Unit	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	---	---	---	---	---	---	---	O	O	---
	PF Driven Pulley Assy	Remove	---	O*3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	O*3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	PF Timing Belt	Remove	---	O*3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	O*3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	EJ Roller	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	---	---	---	---	O	O	---	---	---	---
	Hopper	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	O	O	---	O	---	---	---	---	---	---
Printout pattern			---	---	---	---	---	---	---							---	---	---	---
How to judge			See " 3.3.1 Checking the Platen Gap (p61)" for the details.	See " 3.3.2 CR/PF Belt Tension Check (p63)" for the details.	---	---	---	---	---	Examine the misaligned lines printed on the left side of the paper, and enter the number beside the line that is exactly 5 mm away from the paper edge.	Examine the misaligned lines printed on top of the paper, and enter the number beside the line that is exactly 5 mm away from the paper edge.	Enter the values of the most straight lines.	Examine the printout patterns for each of the four modes, and enter the value for the pattern with no gap and overlap for each mode.	■**Normal area pattern** Examine the printout patterns and enter the value for the pattern with fewest lines. ■**Bottom area pattern** Examine the printout patterns and enter the value for the pattern with no overlap and gap between the two rectangles.	Examine the printout patterns and enter the value for the pattern with no overlap and gap between the two rectangles.	---	See " 3.2.2.1 CR Motor Heat Protection Control / PF Motor Heat Protection Control (p59)" for the details.	See " 3.2.2.1 CR Motor Heat Protection Control / PF Motor Heat Protection Control (p59)" for the details.	See " 3.2.3 Scanner Motor Heat Protection Control (p60)" for the details.
Adjustment program			---	---	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
Tool			See p61	See p63	---	---	---	---	---	Ruler	Ruler	---	---	---	---	---	---	---	---

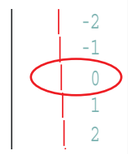
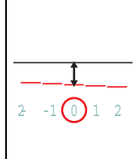
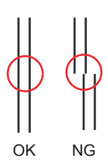
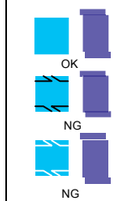
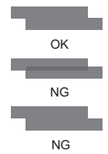
Note "*1": Necessary when the part is replaced at a point in the disassembly procedures other than specified in this manual.
"*2": Replacement of Waste Ink Pad Assy is necessary.
"*3": Perform PF Belt tension check only.
"*4": Perform CR Belt tension check only.

Table 3-1. Required Adjustment List

Adjustment Type			Mechanism adjustment		Adjustment using the Adjustment Program													
Priority			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Adjustment Item			Checking the Platen Gap	CR/PF Belt tension check	EEPROM data copy	Initialize Setting	Head ID input	Ink charge	Maintenance counter	First dot position adjustment	TOP margin adjustment	Head angular adjustment	Bi-D adjustment	PF/EJ adjustment	PF band adjustment	PF deterioration offset	CR motor heat protection control	PF motor heat protection control	Scanner motor heat protection control
Purpose			Check if the PG is within the standard.	Check the tension of the CR Timing Belt and PF Timing Belt.	To copy adjustment values or the like stored on the old Main Board to the new board when the Main Board needs to be replaced.	To write sale-destination-specific settings and the serial number into the Main Board after replacing it. And also to set the MAC address as necessary.	To correct characteristic variation of the replaced Printhead by entering its Printhead ID (Head ID).	To fill ink inside the new Printhead to make it ready for print after replacing the Printhead.	To reset the waste ink counter after replacing the Waste Ink Pad Assy.	To correct the print start position in the CR Unit moving direction through software control.	This corrects top margin of printout.	To correct tilt of the Printhead caused at the installation through software control.	To correct print start timing in bidirectional printing through software control.	To correct variations in paper feed accuracy to achieve higher print quality.	To correct variations in paper feed accuracy to achieve higher print quality in band printing.	To reset the counter or set it to its maximum according to the replaced parts.	To measure and correct the electrical variation of the motor and the power supply board.	To measure and correct the electrical variation of the motor and the power supply board.	To measure and correct the electrical variation of the motor.
Part Name	LD Roller Assy	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	---	O	---	---	---	---	---	---	---	---
	CR Motor	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	---	---	---	---	---	---	---	O	---	---
	PE Sensor Lever	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	---	O	---	---	---	---	---	---	---	---
	Main Board	Remove	---	---	---	---	---	---	---	---	O	---	---	---	---	---	---	---	---
		Replace (Read OK)	---	---	O	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace (Read NG)	---	---	---	O	O	---	O*2	O	O	O	O	O	O	O	O	O	---
	CR Driven Pulley	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	O*4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Main Frame Assy	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	O	O*4	---	---	---	---	---	O	---	O	O	O	O	---	---	---	---
Printout pattern			---	---	---	---	---	---	---							---	---	---	---
How to judge			See " 3.3.1 Checking the Platen Gap (p61)" for the details.	See " 3.3.2 CR/PF Belt Tension Check (p63)" for the details.	---	---	---	---	---	Examine the misaligned lines printed on the left side of the paper, and enter the number beside the line that is exactly 5 mm away from the paper edge.	Examine the misaligned lines printed on top of the paper, and enter the number beside the line that is exactly 5 mm away from the paper edge.	Enter the values of the most straight lines.	Examine the printout patterns for each of the four modes, and enter the value for the pattern with no gap and overlap for each mode.	■**Normal area pattern** Examine the printout patterns and enter the value for the pattern with fewest lines. ■**Bottom area pattern** Examine the printout patterns and enter the value for the pattern with no overlap and gap between the two rectangles.	Examine the printout patterns and enter the value for the pattern with no overlap and gap between the two rectangles.	---	See " 3.2.2.1 CR Motor Heat Protection Control / PF Motor Heat Protection Control (p59)" for the details.	See " 3.2.2.1 CR Motor Heat Protection Control / PF Motor Heat Protection Control (p59)" for the details.	See " 3.2.3 Scanner Motor Heat Protection Control (p60)" for the details.
Adjustment program			---	---	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
Tool			See p61	See p63	---	---	---	---	---	Ruler	Ruler	---	---	---	---	---	---	---	---

Note "*1": Necessary when the part is replaced at a point in the disassembly procedures other than specified in this manual.
"*2": Replacement of Waste Ink Pad Assy is necessary.
"*3": Perform PF Belt tension check only.
"*4": Perform CR Belt tension check only.

Table 3-1. Required Adjustment List

Adjustment Type			Mechanism adjustment		Adjustment using the Adjustment Program													
Priority			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Adjustment Item			Checking the Platen Gap	CR/PF Belt tension check	EEPROM data copy	Initialize Setting	Head ID input	Ink charge	Maintenance counter	First dot position adjustment	TOP margin adjustment	Head angular adjustment	Bi-D adjustment	PF/EJ adjustment	PF band adjustment	PF deterioration offset	CR motor heat protection control	PF motor heat protection control	Scanner motor heat protection control
Purpose			Check if the PG is within the standard.	Check the tension of the CR Timing Belt and PF Timing Belt.	To copy adjustment values or the like stored on the old Main Board to the new board when the Main Board needs to be replaced.	To write sale-destination-specific settings and the serial number into the Main Board after replacing it. And also to set the MAC address as necessary.	To correct characteristic variation of the replaced Printhead by entering its Printhead ID (Head ID).	To fill ink inside the new Printhead to make it ready for print after replacing the Printhead.	To reset the waste ink counter after replacing the Waste Ink Pad Assy.	To correct the print start position in the CR Unit moving direction through software control.	This corrects top margin of printout.	To correct tilt of the Printhead caused at the installation through software control.	To correct print start timing in bidirectional printing through software control.	To correct variations in paper feed accuracy to achieve higher print quality.	To correct variations in paper feed accuracy to achieve higher print quality in band printing.	To reset the counter or set it to its maximum according to the replaced parts.	To measure and correct the electrical variation of the motor and the power supply board.	To measure and correct the electrical variation of the motor and the power supply board.	To measure and correct the electrical variation of the motor.
Part Name	Paper Guide Upper Assy	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	---	O	---	O	O	O	---	---	---	---
	CR Unit	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	O	---	---	---	---	---	---	O	O	O	O	---	O	---	---	---	---
	CR Timing Belt	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	O*4	---	---	---	------	---	---	---	---	---	---	---	---	---	---	---
	Frame Base Assy	Replace	---	O*3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	PF Roller Unit	Remove	---	O*3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	O*3	---	---	---	---	---	O	O	---	O	O	O	---	---	---	---
	PF Motor Assy	Remove	---	O*3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	O*3	---	---	---	---	---	---	O	---	---	O	O	O		---	---
	Frame Base	Replace	---	O*3	---	---	---	---	---	---	---	---	---	---	---	---	---	O	---
Printout pattern			---	---	---	---	---	---	---							---	---	---	---
How to judge			See " 3.3.1 Checking the Platen Gap (p61)" for the details.	See " 3.3.2 CR/PF Belt Tension Check (p63)" for the details.	---	---	---	---	---	Examine the misaligned lines printed on the left side of the paper, and enter the number beside the line that is exactly 5 mm away from the paper edge.	Examine the misaligned lines printed on top of the paper, and enter the number beside the line that is exactly 5 mm away from the paper edge.	Enter the values of the most straight lines.	Examine the printout patterns for each of the four modes, and enter the value for the pattern with no gap and overlap for each mode.	■**Normal area pattern** Examine the printout patterns and enter the value for the pattern with fewest lines. ■**Bottom area pattern** Examine the printout patterns and enter the value for the pattern with no overlap and gap between the two rectangles.	Examine the printout patterns and enter the value for the pattern with no overlap and gap between the two rectangles.	---	See " 3.2.2.1 CR Motor Heat Protection Control / PF Motor Heat Protection Control (p59)" for the details.	See " 3.2.2.1 CR Motor Heat Protection Control / PF Motor Heat Protection Control (p59)" for the details.	See " 3.2.3 Scanner Motor Heat Protection Control (p60)" for the details.
Adjustment program			---	---	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
Tool			See p61	See p63	---	---	---	---	---	Ruler	Ruler	---	---	---	---	---	---	---	---

Note "*1": Necessary when the part is replaced at a point in the disassembly procedures other than specified in this manual.
"*2": Replacement of Waste Ink Pad Assy is necessary.
"*3": Perform PF Belt tension check only.
"*4": Perform CR Belt tension check only.

3.2 Adjustment Program

This section provides the operating environment, functions related to safety and privacy policy, and the adjustment item newly added of the Adjustment Program. See "3.1 Required Adjustments (p54)" for the adjustments not explained here.

3.2.1 Operating Environment

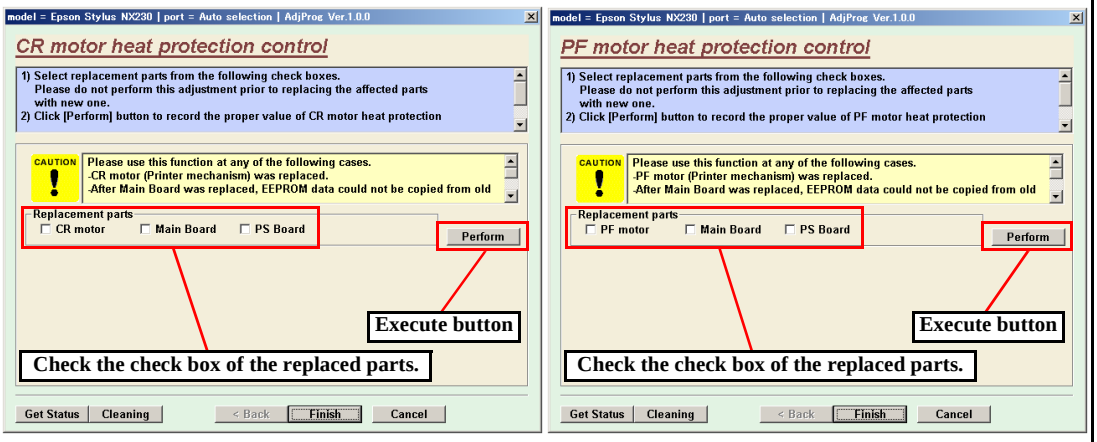
The operating environment for the Adjustment Program is as follows.

- ☐ OS: Windows XP, Vista, 7
- ☐ Interface: USB

3.2.2 Details of the Adjustment Program

Refer to the guide in the Adjustment Program for the details of the procedure.

3.2.2.1 CR Motor Heat Protection Control / PF Motor Heat Protection Control

Purpose	To measure the manufacturing variations of the DC motors (CR Motor/PF Motor), Main Board and Power Supply Board to determine the correction value used for estimating the current values of the motors.
Risks if the adjustment is not correctly made	The printer cannot measure the current value of motor correctly, then the heat generation caused by motor drive cannot be estimated accurately either, and which may results in trouble such as incorrect control of motors when allotting a cool down period according to each heat generation. In the worst case, excessive heat generation may cause smoke or ignition.
Procedure	1. Select from the menu of the Adjustment Program. Check the check box of the replaced parts and press the “Execute” button to measure the correction value. 2. The correction value is automatically measured and the measurement value is written to the EEPROM on the Main Board.
Adjustment Program screen	
Remarks	---

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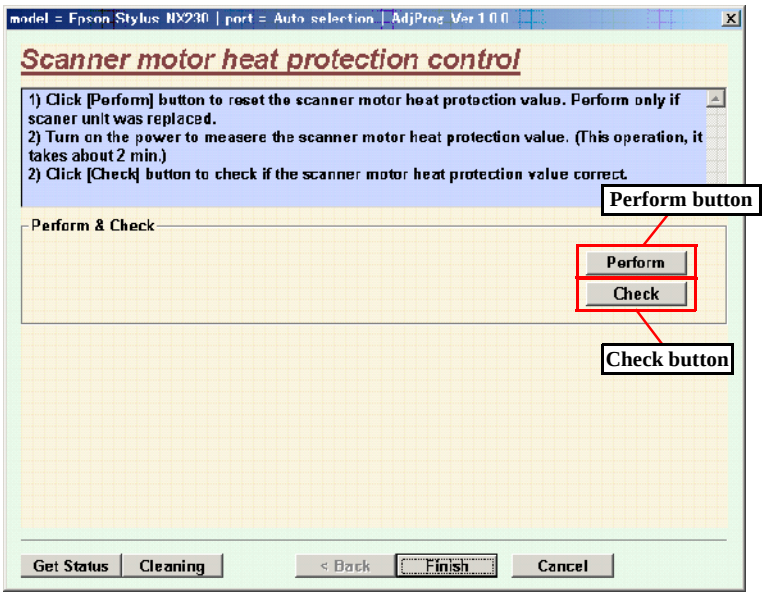
3.2.3 Scanner Motor Heat Protection Control

Purpose	To measure the manufacturing variation of the DC motor (Scanner) to determine the correction value used for estimating the current value of the motor.
Risks if the adjustment is not correctly made	Because the printer cannot measure the current value of the motor accurately, even if just a mechanical load with which the Scanner Carriage can operate without any problem is applied, the printer cannot control the drive of the motors correctly, which may result in occurrence or generation of scanner fatal error, vibration, or noises.
Procedure	1. Select from the menu of the Adjustment Program and press the “Perform” button to measure the correction value. 2. Turn off the printer and turn it back on. After the Scanner Carriage is operated, the correction value is automatically measured and the measurement value is written to the EEPROM on the Main Board. 3. Press the “Check” button to confirm the written value in the EEPROM is within the standard range.
Adjustment Program screen	
Remarks	---

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3.3 Mechanism Adjustment / Check

This section provides the procedure for the mechanism adjustment and check.

3.3.1 Checking the Platen Gap

This section describes the procedure for checking the platen gap (PG).

- **This printer does not have any PG adjustment mechanism, however, it is designed so that the platen gap can fall within the expected range if you correctly reassemble the unit (including using the Epson-specified jigs) according to this manual. If the PG cannot fall within the standard range after performing the platen gap check described in this section, first check if the unit is correctly reassembled following the instructions in this manual. Even if the unit is correctly reassembled but the PG still cannot fall within the standard range, replace the unit with a new/refurbished one.**
- **The standard range of the PG is as follows:**
  - **Standard: 1.75 ± 0.25 mm**

☐ Tools

- Thickness gauge: 1.5 mm (x2), 2.0 mm (x2)

☐ Confirmation procedure

When checking the PG, make sure of the following.

- **Check the PG with new ink cartridges installed to the CR Unit, and also with all parts related to the PG installed to the printer (p 54).**
- **Move the CR Unit by pulling the CR Timing Belt.**
- **Be careful not to damage the nozzles of the Printhead with the thickness gauge.**

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1. Move the CR Unit to the center of the printer.
2. Place the thickness gauges (1.5 mm) on the position A shown in Figure 3-1.

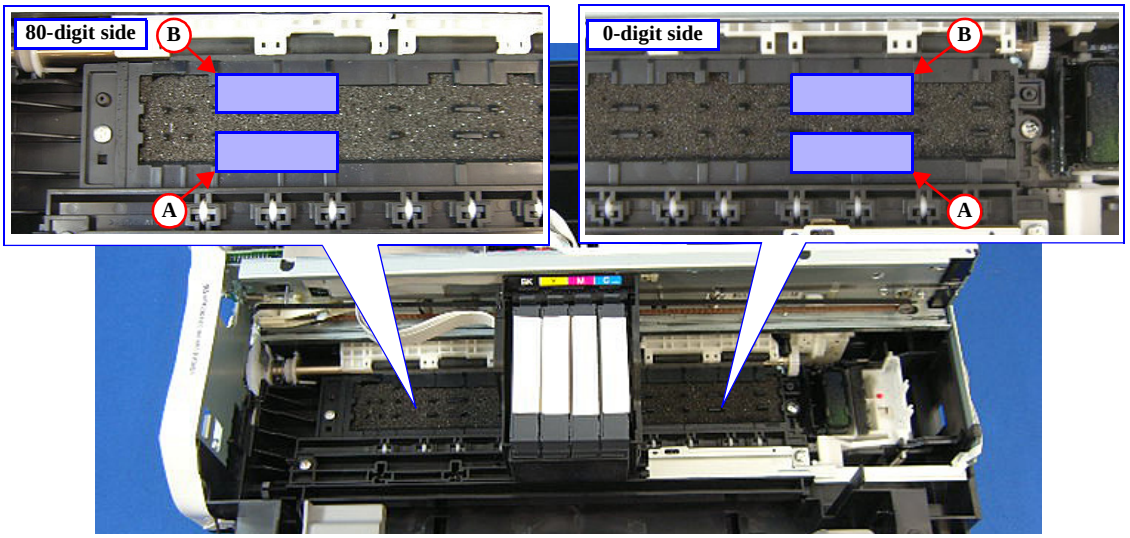

Figure 3-1. Position of the Thickness Gauge

3. Pull the CR Timing Belt to move the CR Unit to both ends and confirm the CR Unit does not touch the thickness gauges.*1
4. Move the CR Unit to the center, and place the thickness gauges (1.5 mm) on the position B shown in Figure 3-1.
5. Pull the CR Timing Belt to move the CR Unit to both ends and confirm the CR Unit does not touch the thickness gauges.*1
6. Move the CR Unit to the center, and place the thickness gauges (2.0 mm) on the position A shown in Figure 3-1.
7. Pull the CR Timing Belt to move the CR Unit to both ends and confirm the CR Unit touches the thickness gauges. *2
8. Move the CR Unit to the center, and place the thickness gauges (2.0 mm) on the position B shown in Figure 3-1.
9. Pull the CR Timing Belt to move the CR Unit to both ends and confirm the CR Unit touches the thickness gauges. *2

Note "*1": If the CR Unit comes in contact with the thickness gauges, the PG is smaller than the standard value, therefore, check if the unit is correctly reassembled. If not, reassemble the unit and perform PG check again. (If the unit is correctly reassembled, replace the unit with a new/refurbished one.)

"*2": If the CR Unit does not come in contact with the thickness gauges, the PG is greater than the standard value, therefore, check if the unit is correctly reassembled. If not, reassemble the unit and perform PG check again. (If the unit is correctly reassembled, replace the unit with a new/refurbished one.)

3.3.2 CR/PF Belt Tension Check

This section describes the CR/PF Belt tension check.

- **This printer is designed so that the each tension of the CR Timing Belt and PF Timing Belt fall within the expected range if you correctly reassemble the unit according to this manual. However, deformation of any related part(s) can cause improper tension of the belt. In such case, replace the unit with a new/refurbished one.**
- **The standard tension range is as follows:**
  - **CR Timing Belt: 9 ± 1 N**
  - **PF Timing Belt: 5.75 ± 3.25 N**

☐ Tools

- Sonic tension meter
- Plastic tweezers

☐ Confirmation procedure

When performing the CR/PF Belt tension check, make sure of the following.

- **Bring the microphone of the sonic tension meter within 5 mm from the timing belt but do not let it touch the belt.**
- **Flip the timing belt as weak as the sonic tension meter can measure it.**
- **Be careful not to damage the timing belt when flipping it with the plastic tweezers.**

Checking the CR Timing Belt Tension

Perform the CR Belt tension check after performing " 3.3.1 Checking the Platen Gap (p61)".

1. Move the CR Unit to 0-digit side.
2. Set the following parameters to the sonic tension meter:
   - Weight: 1.1 g/m
   - Width: 3.5 mm
   - Span: 326 mm
3. Bring the microphone of the sonic tension meter close to the position shown in Figure 3-2.
4. Press the “MEASURE” button of the sonic tension meter and flip the upper of the CR Timing Belt with plastic tweezers and measure the tension of the belt three times.
5. Check the average of the measured values falls within the standard range.
   - Within the standard range: the CR Timing Belt tension check is complete.
   - Out of the standard range: replace the unit with a new/refurbished one.

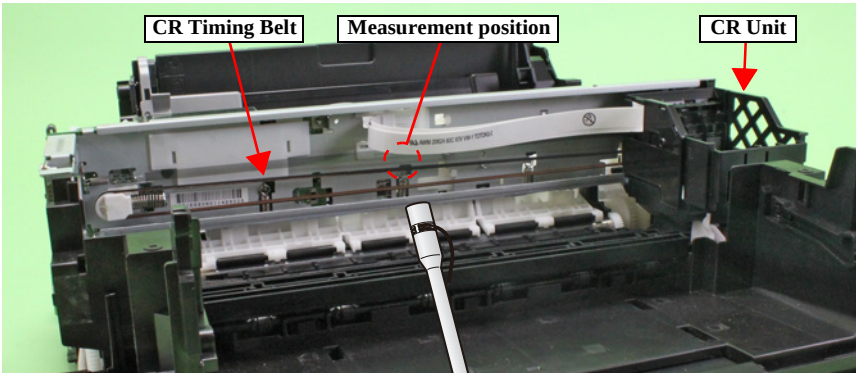

Figure 3-2. Checking the CR Timing Belt Tension

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Checking the PF Timing Belt Tension

Perform the PF Belt tension check before installing the PF Scale and the PF Encoder Sensor.

1. Set the following parameters to the sonic tension meter:

☐ L365/L366,L360/L362,L220/L222 Series

- Weight: 1.1 g/m
- Width: 3.2 mm
- Span: 29 mm

2. Bring the microphone of the sonic tension meter close to the position shown in Figure 3-3.
3. Press the “MEASURE” button of the sonic tension meter and flip the lower of the PF Timing Belt with plastic tweezers and measure the tension of the belt three times.
4. Check the average of the measured values falls within the standard range.
   - Within the standard range: the PF Timing Belt tension check is complete.
   - Out of the standard range: reinstall the " PF Driven Pulley Assy / PF Timing Belt (p44)", and then perform the PF Timing Belt Tension Check again.

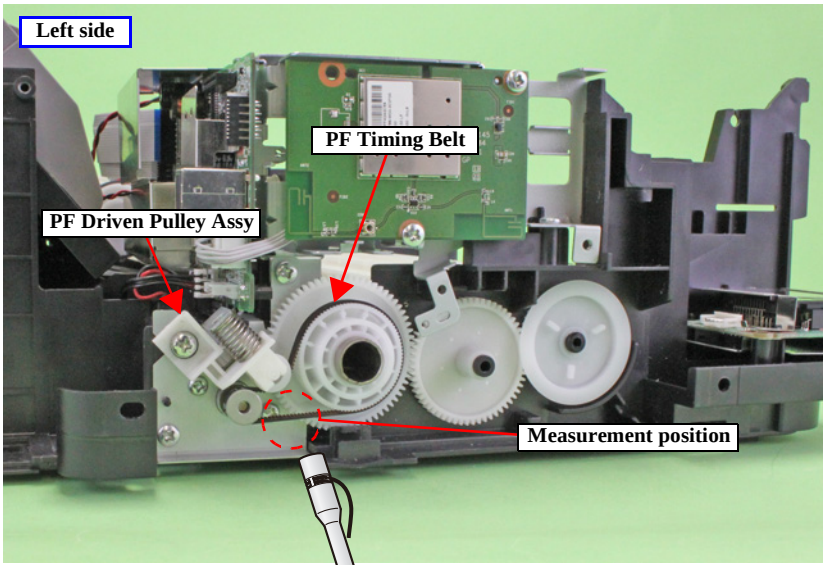

Figure 3-3. Checking the PF Timing Belt Tension

If not within the standard though performing the PF Timing Belt Tension Check twice, replace the unit with a new/refurbished one.

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CHAPTER **4**

MAINTENANCE

4.1 Overview

This section provides information to maintain the printer in its optimum condition.

4.1.1 Cleaning

Except for the Printhead, there are no other mechanical parts or units that require periodic cleaning. However, if need arises, clean the component observing the following instructions.

☐ Instructions for cleaning

- Exterior parts such as housing
  Wipe dirt off with a soft clean cloth moistened with water. For glossy or transparent parts, use of unwoven cloth is recommended to avoid scratching those parts.
- Inside of the printer
  Remove paper dust with a vacuum cleaner.
- Rubber or plastic rollers such as an LD roller used to feed paper
  If paper dust adhered to the rollers decreases the frictional force of the rollers and the rollers cannot properly feed paper, wipe off the paper dust with a soft cloth moistened with diluted alcohol.

☐ Instructions for cleaning ink stains

Wipe the stains off with a cloth wrung out of diluted alcohol.

- **Do not use alcohol for cleaning the transparent parts. Doing so may cause them to get cloudy.**
- **When wiping paper dust off the LD Roller, be careful not to rub against the surface asperity.**
- **To minimize the effect on the parts, use diluted alcohol such as 70% diluted ether.**
- **After using alcohol for cleaning, make sure to wipe the part off with a soft dry dust-free cloth to remove alcohol traces fully.**

4.1.2 Lubrication

The type and amount of the grease used to lubricate the printer parts are determined based on the results of the internal evaluations. Therefore, refer to "4.2 Lubrication Points and Instructions (p67)" for the repairing procedures below, and apply the specified type and amount of the grease to the specified part of the printer mechanism.

"4.2 Lubrication Points and Instructions (p67)" also provides information about whether or not the parts which require lubrication are supplied as ASP and the lubrication status when supplied as ASP. For the parts which are not supplied as ASP, if their movement is not smooth enough, check their lubrication status and lubricate them if necessary.

☐ Grease

Type	Name	EPSON Part Code	Supplier
Grease	G-45	1033657	EPSON
Grease	G-71	1304682	EPSON
Grease	G-74	1409257	EPSON

☐ Tools

Name	Availability	EPSON Part Code
Injector	O *	---
Brush	O *	---
Flux dispenser	O *	1049533

Note *: Use tools whose specifications are specified in "4.2 Lubrication Points and Instructions (p67)".

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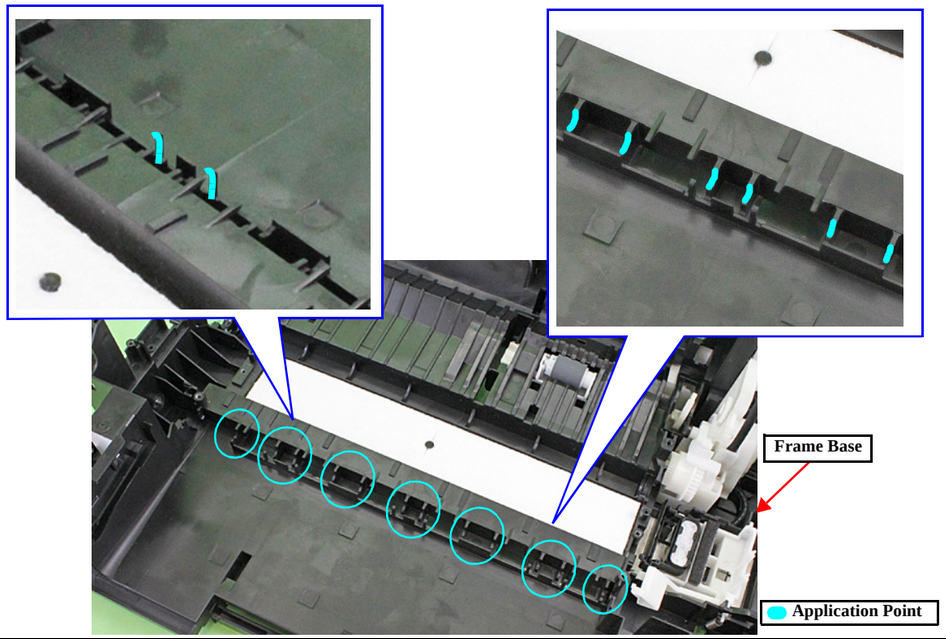
4.2 Lubrication Points and Instructions



<Part supply as ASP>
None
<Lubrication status when supplied as ASP>

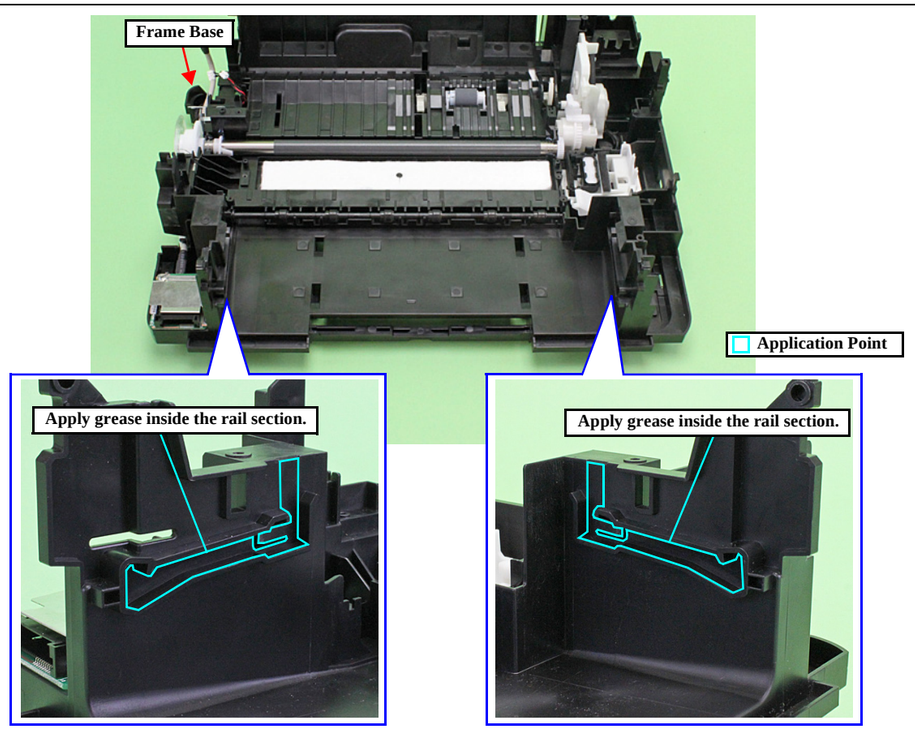
<Lubrication Point>
Ribs (x12) and hooks (x6) on the Frame Base (Contact points of the EJ Roller)

<Type>
G-74

<Application Amount>
Appropriate amount

<Remarks>
- ☐ Apply with flux dispenser.
- ☐ Stir G-74 before use.

Figure 4-1. Lubrication of the Frame Base (1)



<Part supply as ASP>
None
<Lubrication status when supplied as ASP>

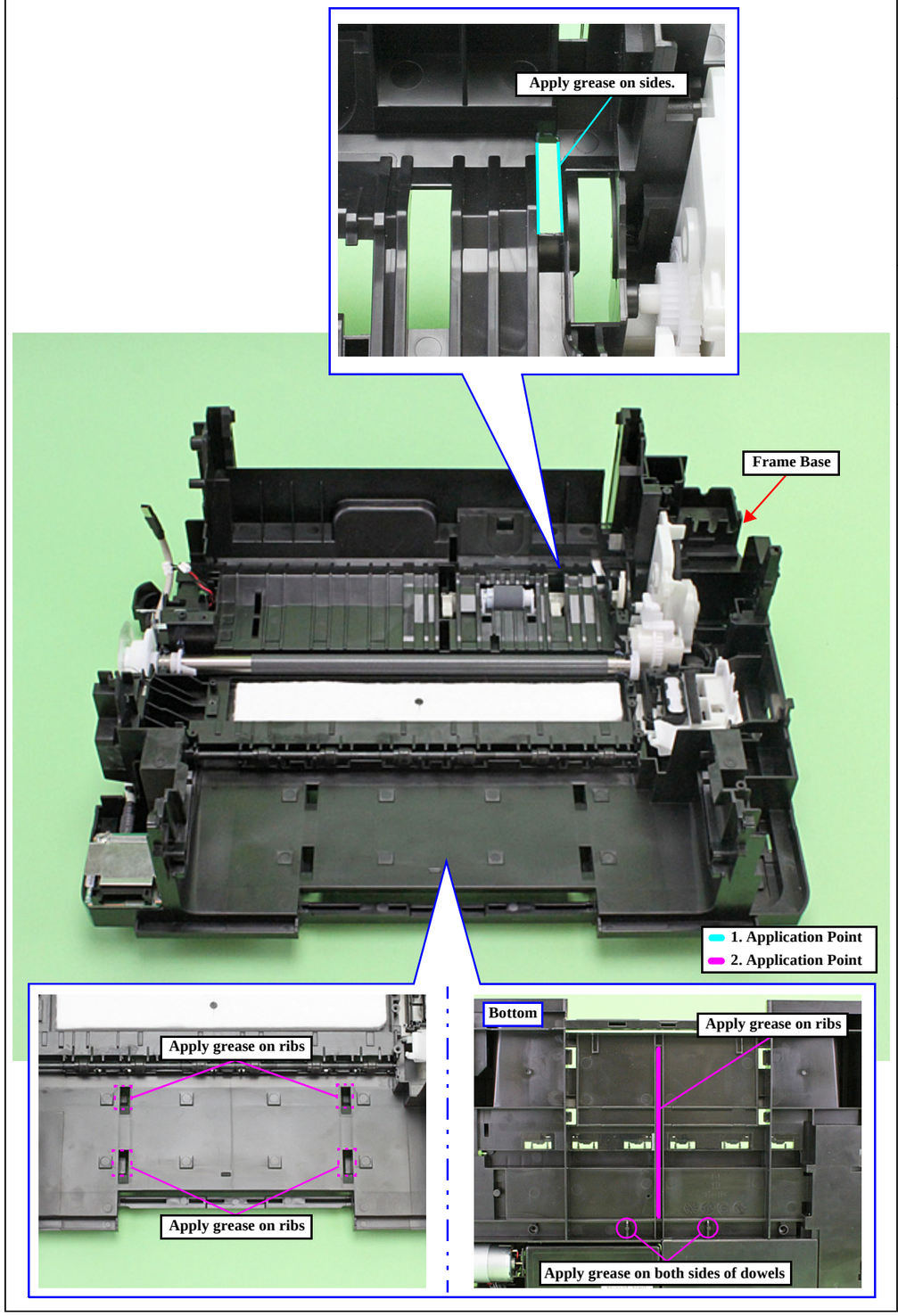
<Lubrication Point>
Contact points (x2) on the Frame Base with the Panel Assy

<Type>
G-74

<Application Amount>
Appropriate amount

<Remarks>
- ☐ Apply with flux dispenser.
- ☐ Stir G-74 before use.

Figure 4-2. Lubrication of the Frame Base (2)



<Part supply as ASP>
None
<Lubrication status when supplied as ASP>

<Lubrication Point>
1.Contact points (x2) on the Frame Base with the Hopper
2. Contact points (x7) on the Frame Base with the Stacker Assy

<Type>
1. G-71
2. G-74

<Application Amount>
Appropriate amount

<Remarks>
- ☐ Apply with flux dispenser.
- ☐ Stir G-74 before use.

Figure 4-3. Lubrication of the Frame Base (3)

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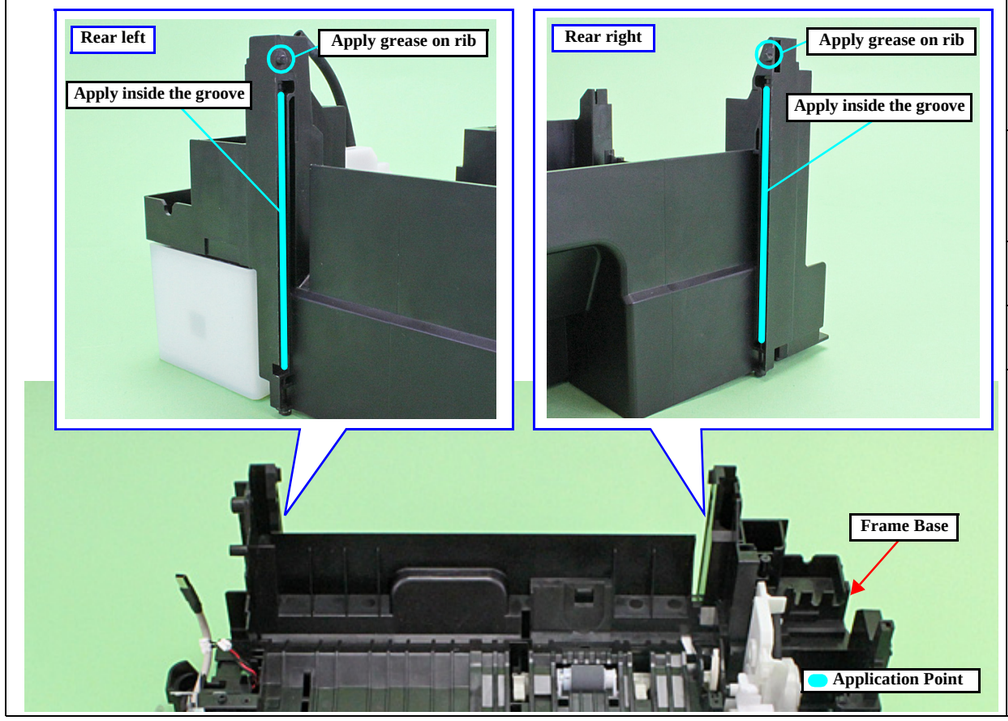


<Part supply as ASP>
None
<Lubrication status when supplied as ASP>

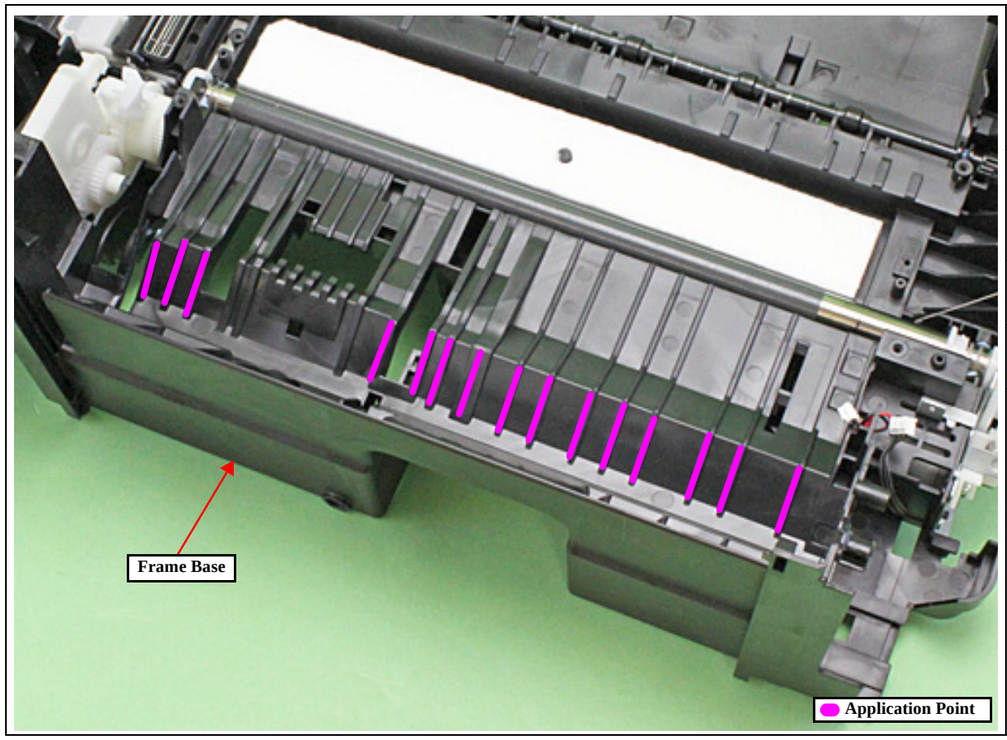
<Lubrication Point>
Contact points (x4) on the Frame Base with the Paper Support Assy

<Type>
G-74

<Application Amount>
Appropriate amount

<Remarks>
- ☐ Apply with flux dispenser.
- ☐ Stir G-74 before use.

Figure 4-4. Lubrication of the Frame Base (4)



<Part supply as ASP>
None
<Lubrication status when supplied as ASP>

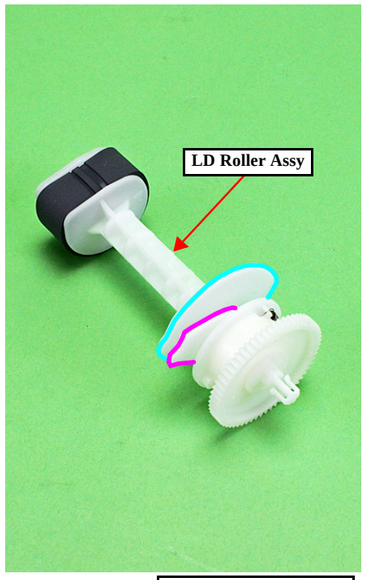
<Lubrication Point>
Contact points (x15 on the ribs) on the Frame Base with the Hopper

<Type>
G-74

<Application Amount>
Appropriate amount

<Remarks>
- ☐ Apply with flux dispenser.
- ☐ Stir G-74 before use.

Figure 4-5. Lubrication of the Frame Base (5)



<Part supply as ASP>
Yes
<Lubrication status when supplied as ASP>
Not lubricated

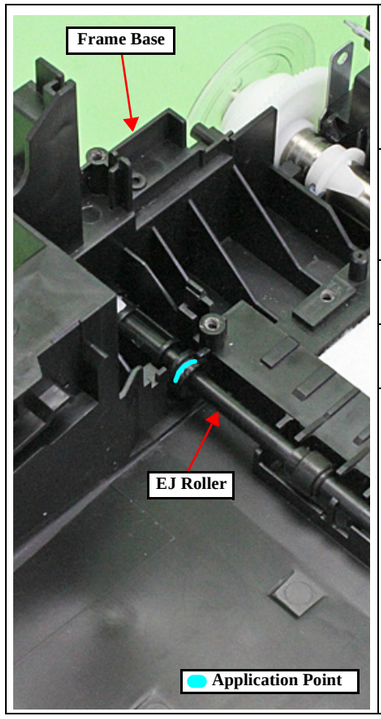
<Lubrication Point>
1. Cam of the LD Roller Assy (contact point with the Hopper)
2. Cam of the LD Roller Assy (contact point with the Paper Back Lever)

<Type>
G-71

<Application Amount>
Circumference of each cam (0.05 g each)

<Remarks>
- ☐ Apply with injector.
- ☐ Lubricate before attaching the part.

Figure 4-6. Lubrication of the LD Roller Assy



<Part supply as ASP>
Yes
<Lubrication status when supplied as ASP>
Not lubricated

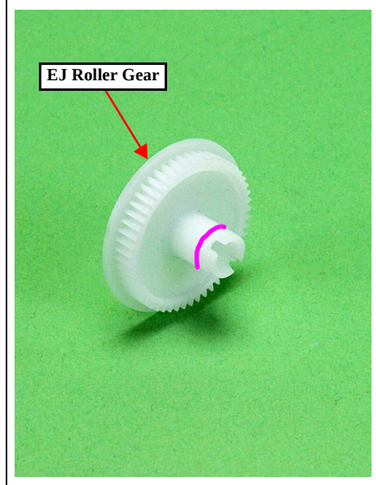
<Lubrication Point>
Contact point (x1 on the shaft) on the EJ Roller with the Frame Base

<Type>
G-71

<Application Amount>
0.06 g

<Remarks>
- ☐ Apply with injector.
- ☐ Lubricate before attaching the part.

Figure 4-7. Lubrication of the EJ Roller



<Part supply as ASP>
Yes
<Lubrication status when supplied as ASP>
Not lubricated

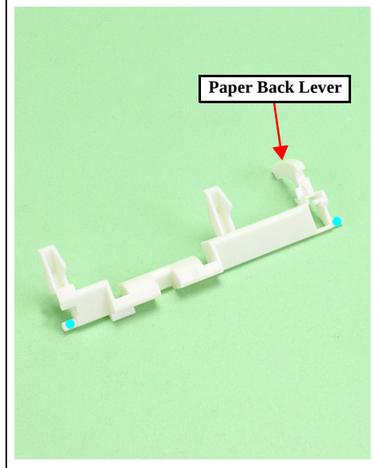
<Lubrication Point>
Shaft on the EJ Roller Gear

<Type>
G-71

<Application Amount>
ϕ 1 mm x 1 circle

<Remarks>
- ☐ Using injector, apply grease along the tier on the shaft.
- ☐ Lubricate before attaching the part.

Figure 4-8. Lubrication of the EJ Roller Gear



<Part supply as ASP>
Yes
<Lubrication status when supplied as ASP>
Not lubricated

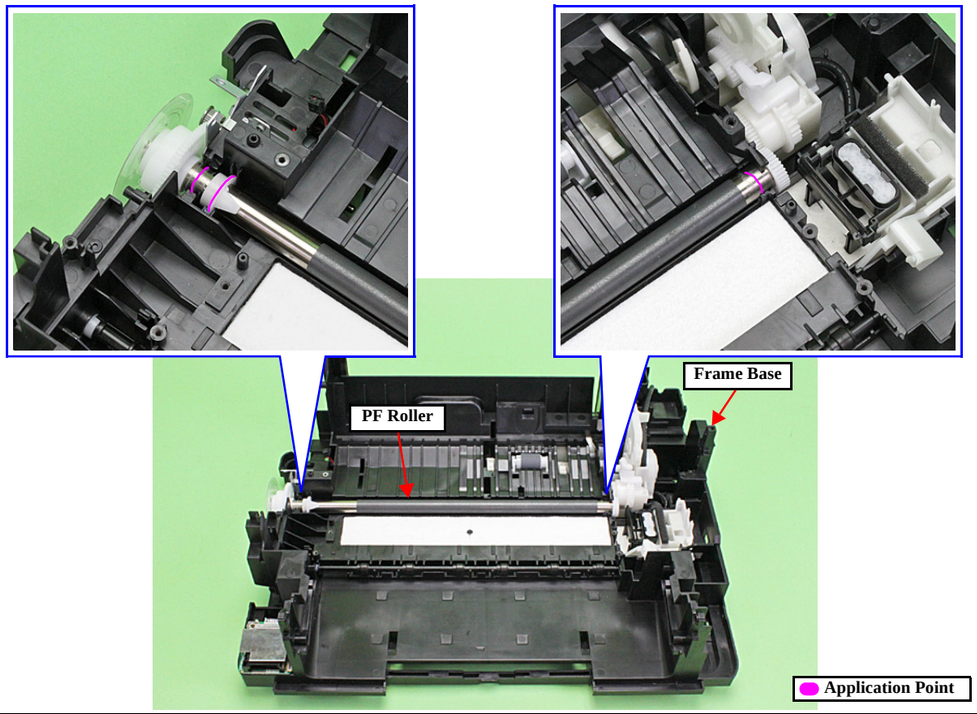
<Lubrication Point>
Contact points (x2) on the Paper Back Lever with the Frame Base

<Type>
G-71

<Application Amount>
0.06 g x 2 points

<Remarks>
- ☐ Apply with injector.
- ☐ Lubricate before attaching the part.

Figure 4-9. Lubrication of the Paper Back Lever



<Part supply as ASP>
Yes
<Lubrication status when supplied as ASP>
Not lubricated

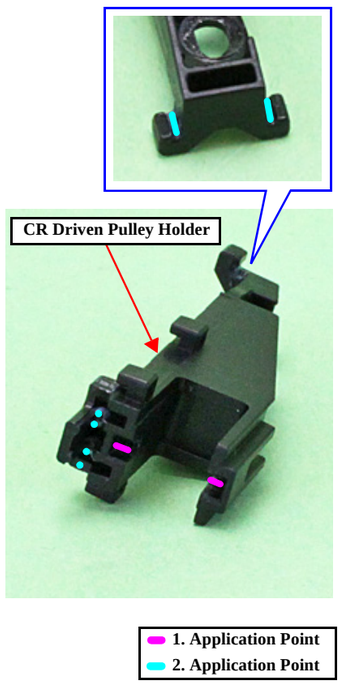
<Lubrication Point>
Contact points (x3 on the shaft) on the PF Roller with the Frame Base

<Type>
G-71

<Application Amount>
On each contact point around the shaft (appropriate amount)

<Remarks>
☐ Apply with injector.
☐ Lubricate before attaching the part.

Figure 4-10. Lubrication of the PF Roller



<Part supply as ASP>
None
<Lubrication status when supplied as ASP>

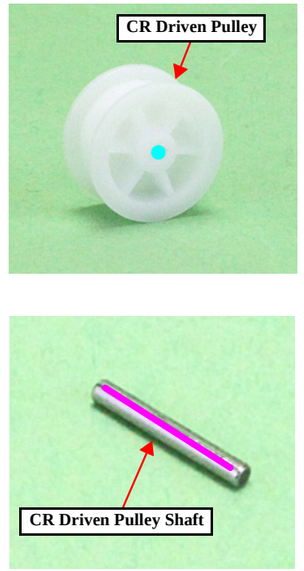
<Lubrication Point>
1. On the bearings (x2) of the CR Driven Pulley on the CR Driven Pulley Holder
2. Contact points (x6) on the groove of the CR Driven Pulley Holder with the Main Frame

<Type>
G-71

<Application Amount>
Appropriate amount

<Remarks>
☐ Apply with injector.
☐ Check the lubrication condition and apply grease if necessary.

Figure 4-11. Lubrication of the CR Driven Pulley Assy



<Part supply as ASP>
None
<Lubrication status when supplied as ASP>

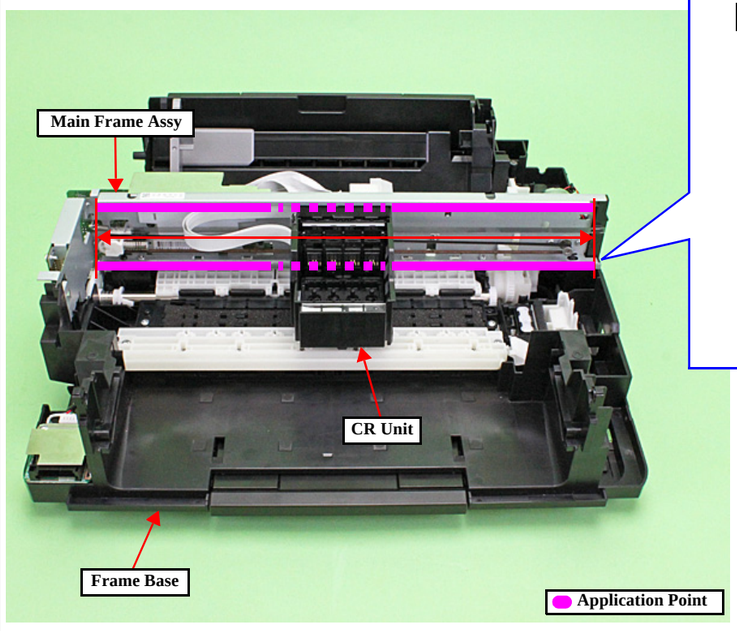
<Lubrication Point>
1. Shaft hole of the Driven Pulley.
2. CR Driven Pulley Shaft

<Type>
G-71

<Application Amount>
Appropriate amount

<Remarks>
Apply with injector.

Figure 4-12. Lubrication of the CR Driven Pulley/ CR Driven Pulley Shaft



<Part supply as ASP>
None
<Lubrication status when supplied as ASP>

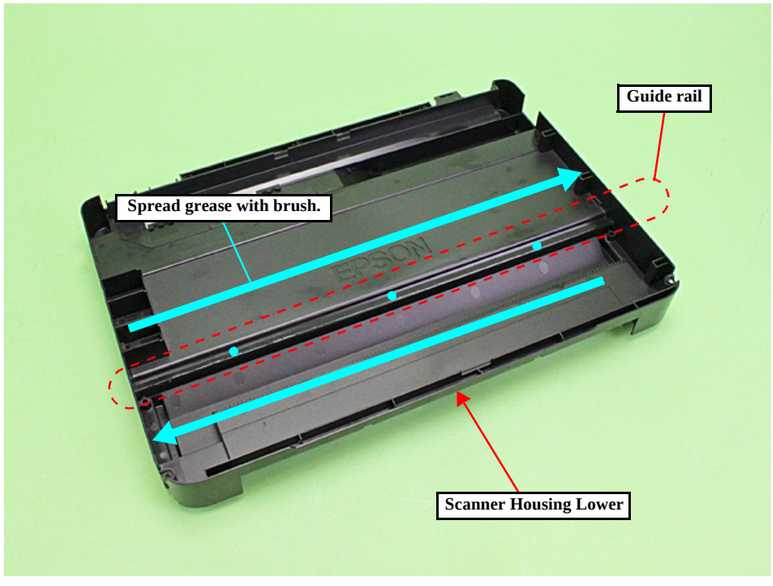
<Lubrication Point>
1. Contact point (x1) on the upper side of the Main Frame Assy with the CR Unit
2. Contact points (x4) on the lower side of the Main Frame Assy with the CR Unit

<Type>
G-71

<Application Amount>
Appropriate amount

<Remarks>
Apply with injector.

Figure 4-13. Lubrication of the Main Frame Assy



<Part supply as ASP>
Supplied as the Scanner Unit
<Lubrication status when supplied as ASP>
Lubricated

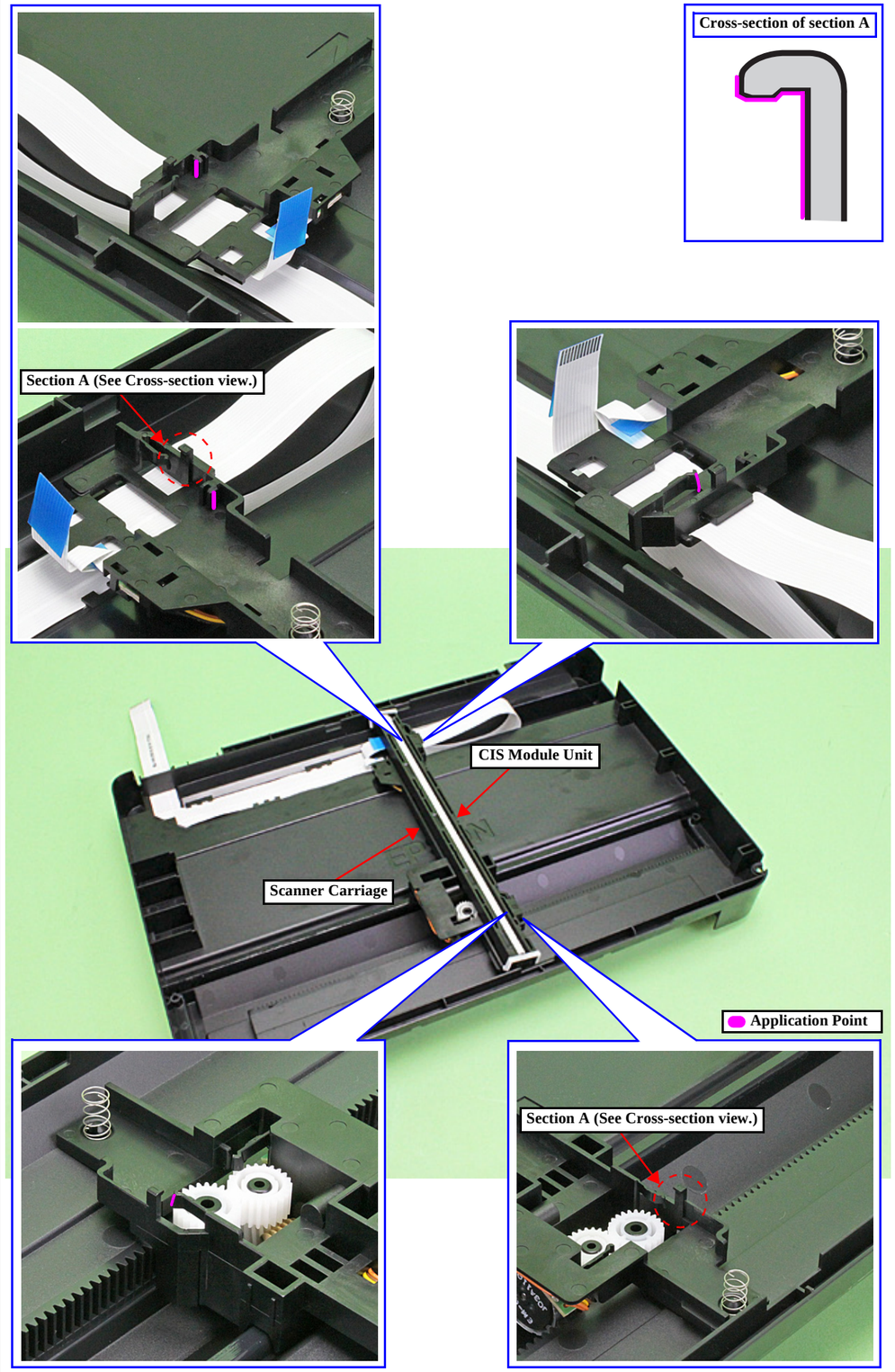
<Lubrication Point>
Guide rail of the Scanner Housing Lower

<Type>
G-45

<Application Amount>
0.03 g x 3 points

<Remarks>
After applying with injector, spread it with brush in the direction of the arrow.

Figure 4-14. Lubrication of the Scanner Housing Lower



<Part supply as ASP>
Supplied as the Scanner Unit
<Lubrication status when supplied as ASP>
Lubricated

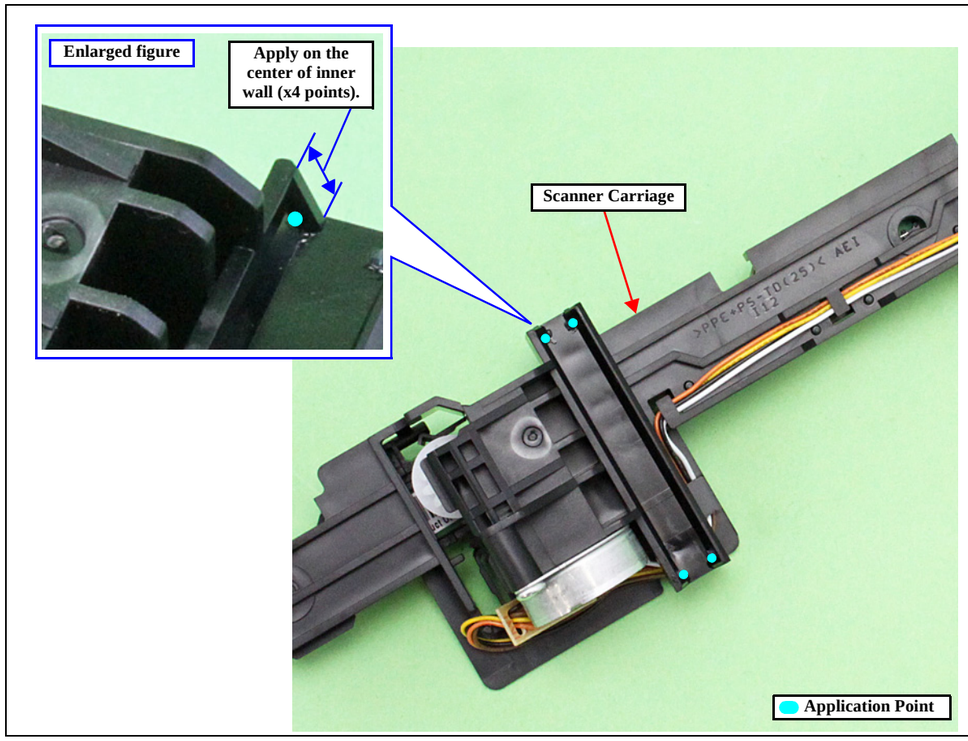
<Lubrication Point>
Contact points (x6) on the Scanner Carriage with the CIS Module Unit

<Type>
G-74

<Application Amount>
Appropriate amount

<Remarks>
- ☐ Apply with flux dispenser.
- ☐ Stir G-74 before use.
- ☐ For section A, apply grease over the area shown in the Cross-section view.

Figure 4-15. Lubrication of the Scanner Carriage (1)



<Part supply as ASP>
Supplied as the Scanner Unit
<Lubrication status when supplied as ASP>
Lubricated

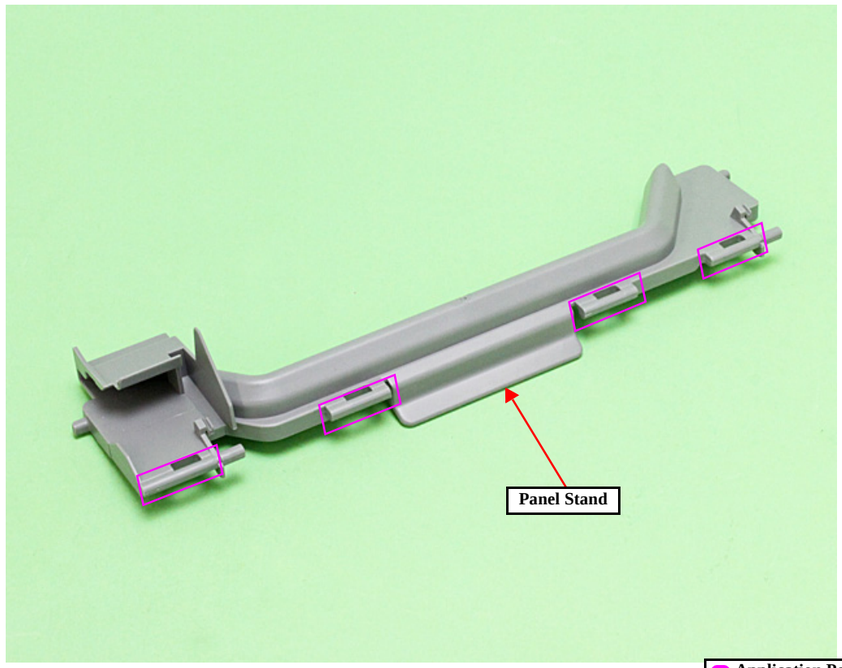
<Lubrication Point>
On inner wall surfaces (x4) on the groove of the Scanner Carriage

<Type>
G-45

<Application Amount>
0.01 g x 4 points

<Remarks>
- ☐ Using injector, apply grease on inner wall surfaces (x4) on the groove shown in the enlarged figure.
- ☐ Be careful not to let grease flow over.

Figure 4-16. Lubrication of the Scanner Carriage (2)



<Part supply as ASP>
Supplied as the Panel Unit
<Lubrication status when supplied as ASP>
Lubricated

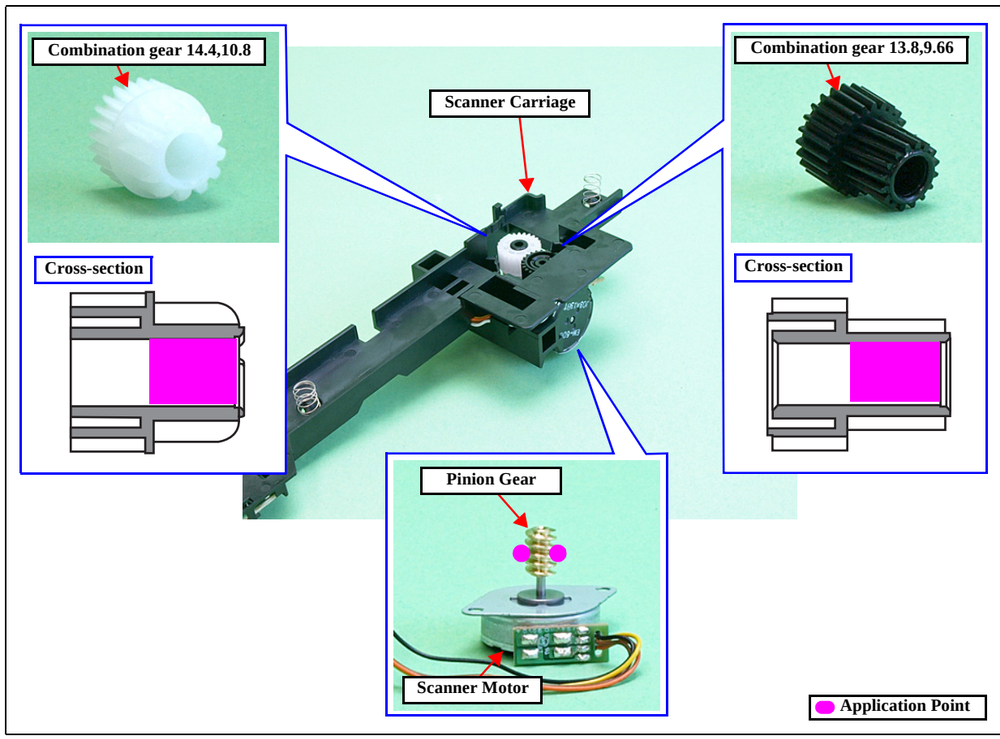
<Lubrication Point>
Shafts (x4) of the Panel Stand

<Type>
G-74

<Application Amount>
Appropriate amount

<Remarks>
- ☐ Using flux dispenser, apply all over the shafts shown in the figure.
- ☐ Stir G-74 before use.

Figure 4-17. Lubrication of the Panel Stand



<Part supply as ASP>
Supplied as the Scanner Unit
<Lubrication status when supplied as ASP>
Lubricated

<Lubrication Point>
1. Gear sections (x2) on the Pinion Gear of the Scanner Motor
2. Shaft hole of the Combination Gear 14.4.10.8
3. Shaft hole of the Combination Gear 13.8.9.66

<Type>
G-45

<Application Amount>
1. 0.01 g x 2 points
2.3. 0.01 g

<Remarks>
1. Apply with injector.
2.3. After applying with injector, spread it over the entire inner surface the shaft hole shown in the figure.
☐ Be careful not to let grease flow over.

Figure 4-18. Lubrication of Scanner Motor, Combination Gear 14.4,10.8 and Combination Gear 13.8,9.66

CHAPTER **5**

APPENDIX

5.1 Connector Diagram

In this chapter, the product names are called as follows:

- **L365/L366 Series:L365/L366**
- **L360/L362 Series:L360/L362/L363**
- **L310/L312 Series:L310/L312/L313**
- **L220/L222 Series:L210/L211**
- **L130/L132 Series:L110/L111**

Cable connections of this printer are shown below.

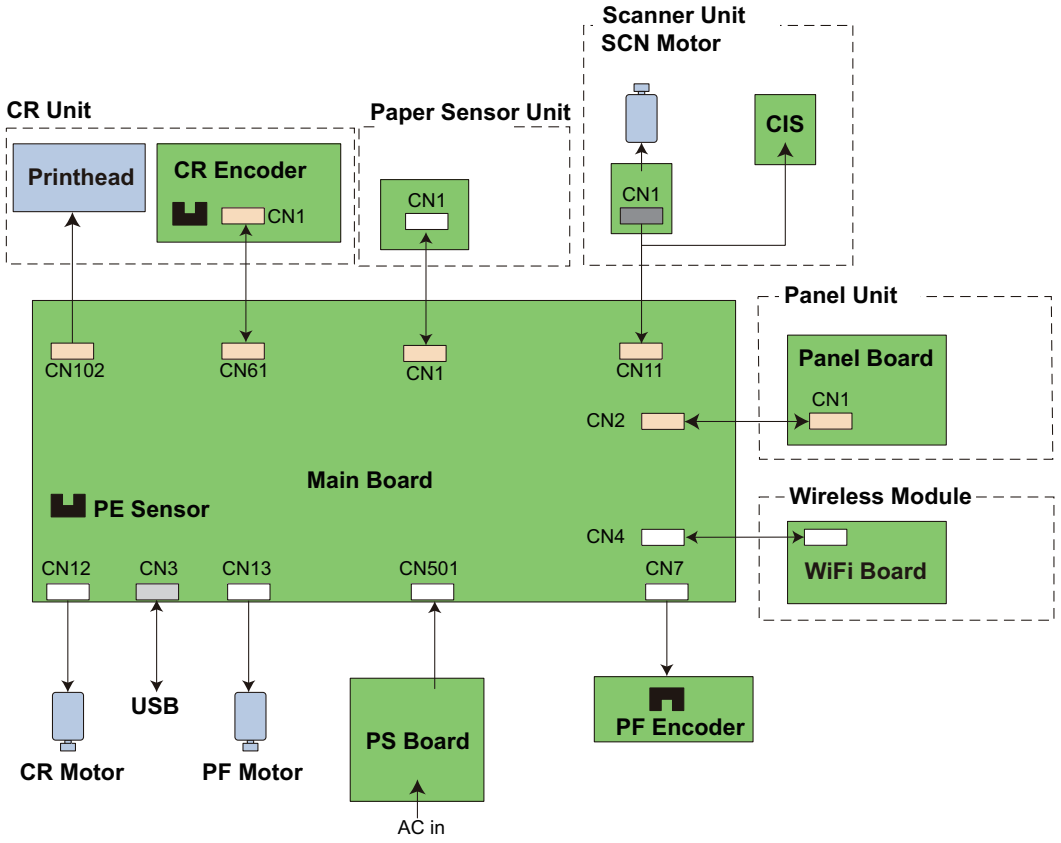


Figure 5-1. Connector Diagram

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5.2 Points to be checked before packing the printer

To avoid the trouble, such as ink leaks. Products need to be packed following to the procedure mentioned below.

- **"Highland" means that applied to the customer who is in the place where the altitude difference with service center is over 1, 000m asl .**
- **In case of the customer who is in less than 1000m asl , "Lowland" is applied.**

■ **In the case of Ventilation Film less Ink Tank**

	Item	Highland	Lowland	Note
1	Amount of ink in Ink Tank	**Full**	**Not Full**	Full;Fill ink up to upper limit line Not Full;An original amount of ink is kept
2	Porous Pad	**Attach**	**Not Attach**	Attach on the Ventilation hole

■ Attach Porous Pad on the Ventilation hole.(In the case of Ventilation Film less Ink Tank).

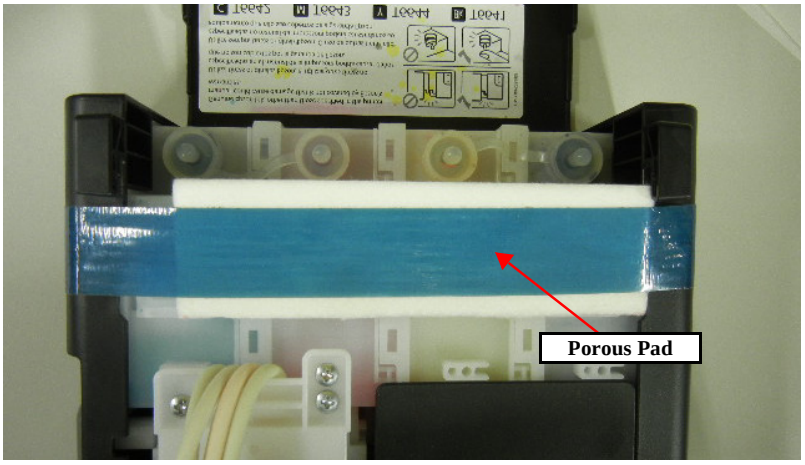


Figure 5-2. Attaching the Item

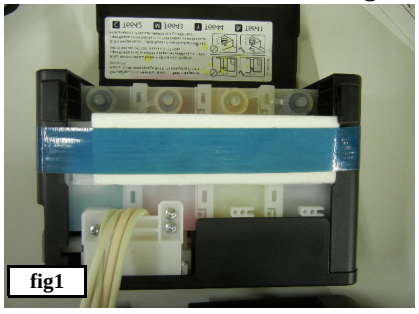
- **Size of Porous Pad is as follows**

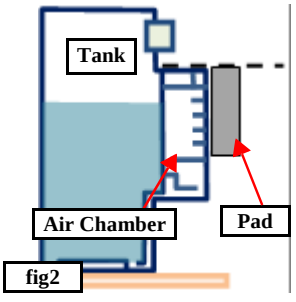
  Size of Porous Pad : H 35mm×W 120mm×D 8mm

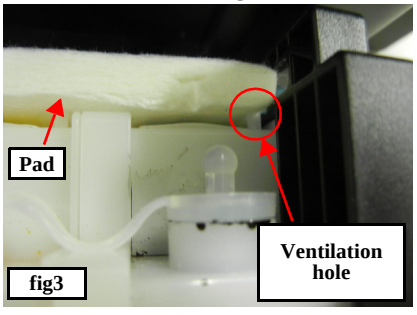
■ **Important points when attaching the Porous Pad**

1. Attach the Porous Pad on the Ventilation hole as fig1.
2. The height positions of Porous Pad is almost the same as the air chamber in Ink Tank as fig2.

   If the Porous Pad is attached more up remarkly than the air chamber , there is the risk that the tube becomes kink because the Porous Pad pushes the curved part of the tube as fig4.
3. Attach the Porous Pad noting that Porous Pad covers all Ventilation holes of Ink Tank as fig3.







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■ **Important points when hanging the Ink Tank to product's main body**

1. Set the tube to become loose curved as much as possible(Let the tube loose on the right hand) as fig4.

   If curve of the tube is sharp, it might make the tube kink as fig5.

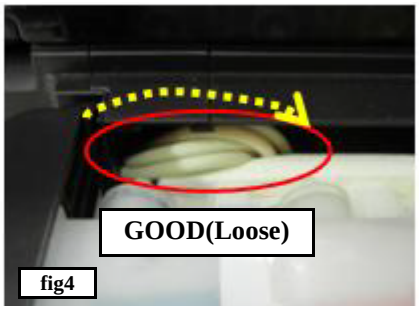

fig4

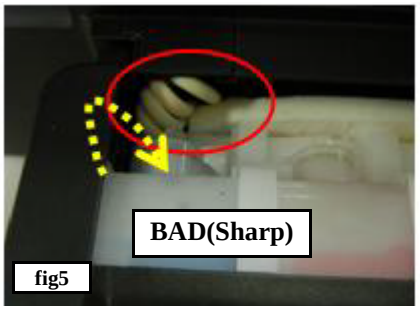

fig5

■ **Key point when transporting products**

Never place the printer upright after filling ink, otherwise ink may leak or the printer does not print correctly.

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5.3 Protection for Transportation

This section describes the cautions for packing the printer before returning it to the user.

5.3.1 Securing the CR Unit

- ☐ Purpose
  To prevent damaging the Change Lever by shock during transportation.
- ☐ Risks if it is not performed
  Fatal error caused by the damage of the Change Lever.
- ☐ Preparation
  Prepare a piece of strong tape
  - ■ Length: 180 mm, width: 14 mm, fold one end 5 ± 2 mm.
- ☐ Method

In order to prevent damaging the Change Lever, the CR Unit should be secured at the position indicated in Step 2. Therefore, when securing the CR Unit with strong tape, hold the Timing Belt to keep the position of the CR Unit as is and avoid the CR Unit from moving to the 0-digit side.

1. Turn off the printer to set the CR Unit to its home position.
2. Pull the CR Timing Belt, and move the CR Unit to the 80-digit side slightly so that the CR Unit can touch the side of the tip on the Change Lever.
3. Attach the not-folded end of strong tape on the bottom of the CR Unit.
4. Attach the strong tape on to the Housing Right, and secure the CR Unit.

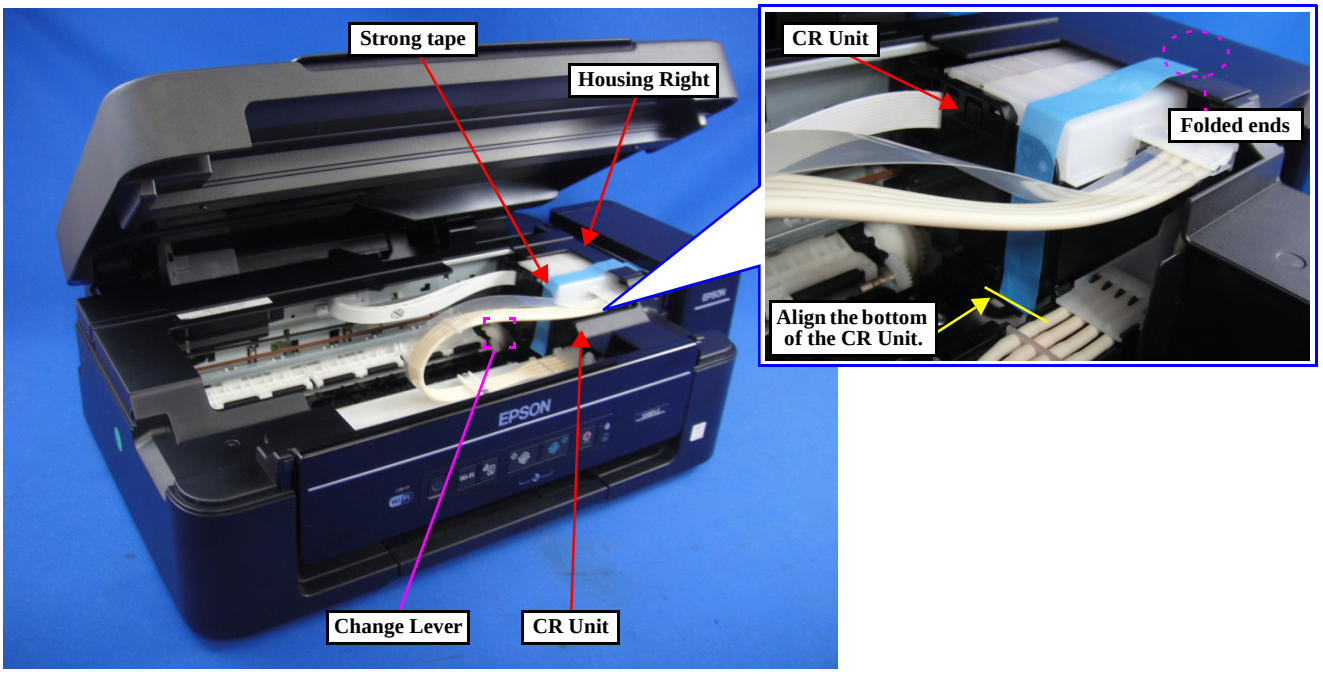

Figure 5-3. Securing the CR Unit

5.3.2 Securing the Paper Support Assy

- Purpose
  To prevent damaging the Paper Support Assy by the shock during transportation.
- Risks if it is not performed
  The Paper Support Assy will be scratched and the abrasion powder will be produced due to the shock during transportation.
- Preparation
  Prepare two pieces of strong tape (length: 65 mm, width: 22 mm, fold one end 5 mm).
- Method
  Attach strong tape on both sides of the Paper Support Assy and secure the Paper Support Assy to the Housing Right/Housing Left.

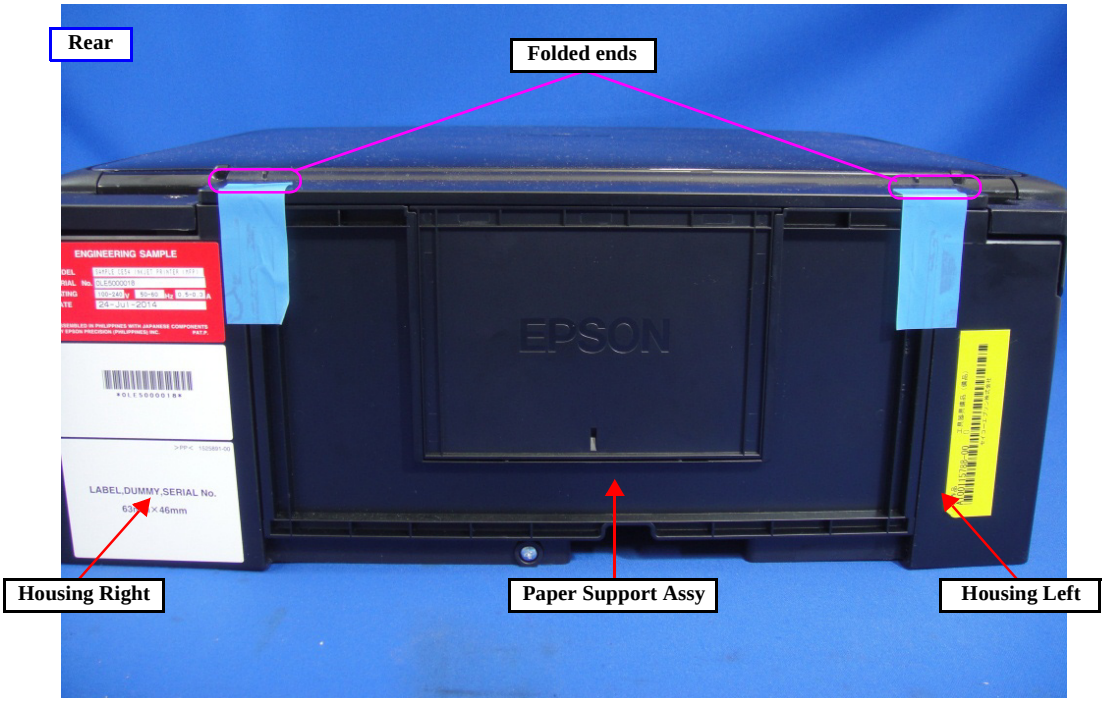

Figure 5-4. Securing the Paper Support Assy

5.3.3 Securing the Ink Supply Tank Assy/Top Cover

- Purpose
  To prevent damage on the Ink Supply Tank Assy/Top Cover from shock during transportation.
- Risks if it is not performed
  Damage on the Ink Supply Tank Assy/Top Cover.
- Preparation
  - Ink Supply Tank Assy
    Prepare a piece of strong tape (length: 160 mm, width: 22 mm, fold one end 5 mm).
  - Top Cover
    Prepare two pieces of strong tape (length: 65 mm, width: 22 mm, fold one end 5 mm).
- Method
  - Ink Supply Tank Assy
    Attach strong tape along the shapes of the Tank Assy as shown in Fig.5-5 to Secure the Frame Base and Ink Supply Tank Assy with strong tape .
  - Top Cover
    Attach strong tape along the shapes of the Tank Assy as shown in Fig.5-5 to Secure the Ink Supply Tank Assy and Top Cover with strong tape (x2).

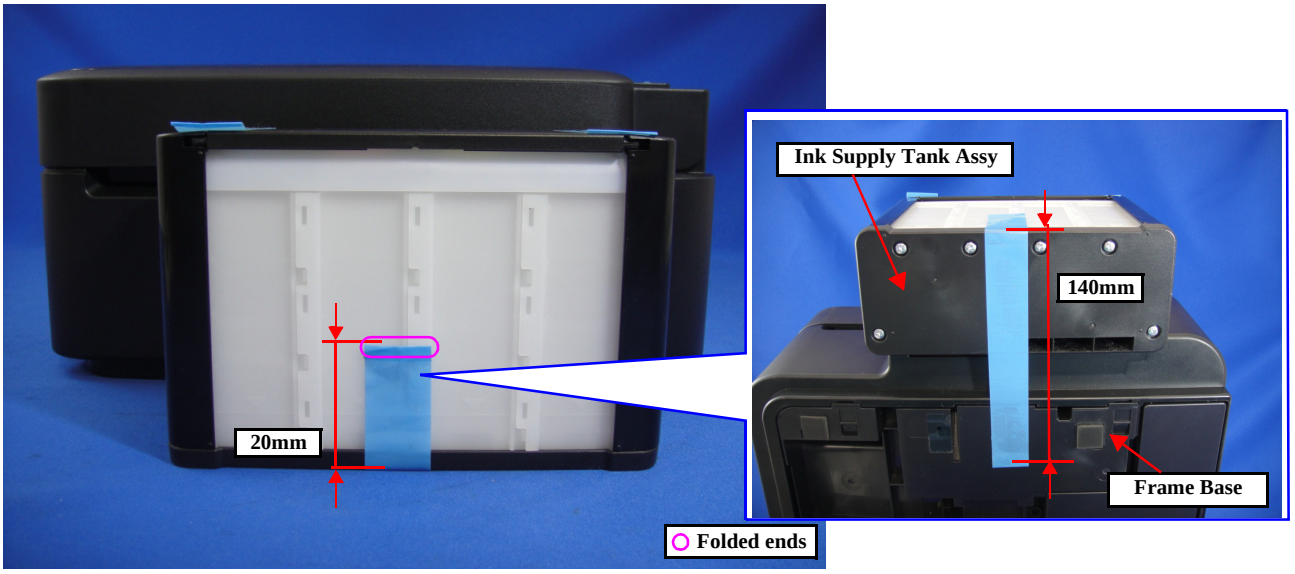

Figure 5-5. Securing the Ink Supply Tank Assy

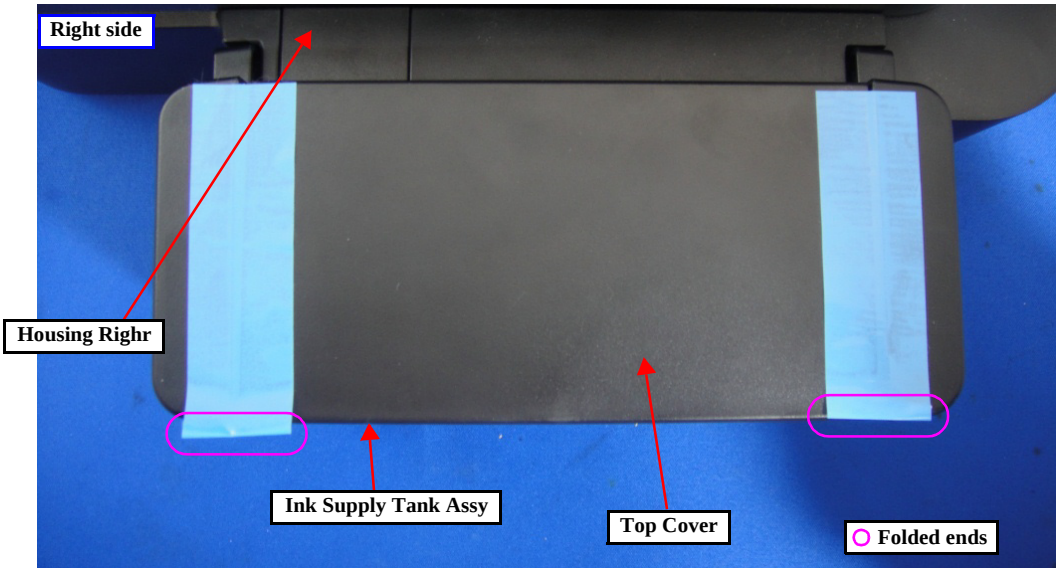

Figure 5-6. Securing the Top Cover

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